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DEPARTMENT OF THE NAVY (DON) INFORMATION TECHNOLOGY (IT) CAPITAL PLANNING GUIDE

(Version 1.0)

Office of the DON
Chief Information Officer (CIO)
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Foreword....

As we move towards the next century, the increased demand for timely and qualitative information coupled with diminishing funds places a high value on our investment decisions. Emphasis on achieving maximum benefit in terms of cost savings or avoidances, mission effectiveness, and improved productivity must be cornerstones in our investment decision process. Navy and Marine Corps managers must have quantified performance goals and objectives that clearly support Information Technology (IT) investments and their contribution to the Department of the Navy (DON). To demonstrate success, each program or project must institutionalize quantitative, outcome-oriented decision criteria against which performance can be evaluated. Our focus clearly should be on achieving enterprise-wide solutions, and by identifying and studying possible alternatives and prioritizing our investments based on benefits and costs, we will be able to maximize the contribution of IT to the Naval warfighting mission.

This guide outlines the Department the Navy's (DON's) Capital Planning policies and procedures and provides a model to assist Command level managers in implementing an effective IT capital investment decision-making process at the organizational level. Implementing the principles set forth in this guide will result in investment decisions which support Departmental strategic objectives and initiatives as well as organizational business plans. This guide is intended to provide a flexible framework for development of an IT capital investment decision process which can be tailored to meet unique organizational needs.

Just as technology changes rapidly, the Capital Planning Guide must be responsive to the needs of the stakeholders throughout the DON. Accordingly, we will continue to examine the processes, assess changes and update the concepts and principles of this guide so that it will continue to be a useful tool in making IT investment decisions. Any recommendations or suggestions for augmenting this guide are always welcome and may be directed to the Office of the DON Chief Information Officer (CIO), Capital Planning Competency. The DON CIO organization chart and points of contact (POC) can be found in Appendix A.

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Overview

1. Capital Planning Guide Overview

This guide is intended to provide a Capital Planning framework to assist managers and decision-makers in the effective selection, management and evaluation of IT investments. The guide describes the capital planning legislative background and processes and its linkage to the Department's Planning, Programming and Budgeting System (PPBS), IT Strategic Planning, Business Process Reengineering, Performance Metrics, and the Acquisition Management Process. The guide's objectives are to help DON managers establish, implement and execute effective and consistent Department-wide criteria and processes for selecting, managing and evaluating their IT investments. While this guide supports DON methods and processes, it does not depend on the adoption of any specific capital planning structure. This guide provides a flexible framework for integrating capital planning into existing management and development processes.

The "DON Information Technology (IT) Capital Planning Guide" can be used as a central source of information for structuring an organization's Capital Planning Process. While organizations are provided flexibility in how they implement key principles and concepts in the guide, they are expected to comply with existing policies for planning and funding new investments. In some cases, the guide contains prospective procedures which are based on proposed policy changes. For ease of identification, these new procedures have been highlighted in *italics*.

A brief synopsis of the guide's chapters follows:

Chapters 1 – 2 provide an overview of Capital Planning and related legislation and regulations;

Chapter 3 covers processes and topics related to Capital Planning; and,

Chapter 4 describes the selection, management and evaluation phases, which comprise the Capital Planning Process.

This guide is a living document designed to be easily updated. There will be further updates to reflect improved business practices and new government guidelines.

Chapter 1 - Introduction

1. Information Technology (IT) Capital Planning Process

Increased public scrutiny, tighter budgets, and legislative mandates all compel Information Technology (IT) managers to focus their attention on managing IT investments, rather than focusing too narrowly on IT acquisitions. The emphasis must be on achieving outcomes that contribute to mission effectiveness, rather than simply meeting contractual requirements. To demonstrate success, each program, project, and acquisition must institutionalize output or outcome-oriented investment criteria to evaluate performance over time. To achieve success, a systematic capital planning approach is needed to manage the risks and returns for IT investments in support of a given mission. Capital Planning provides an integrated management process for the continuous selection, management and evaluation of IT investments over their lifecycles and is focused on achieving desired outcomes.

As depicted below in Figure 1-1, the three phases of the Capital Planning Process occur in a continuous cycle of selection, management and evaluation. Information from each phase flows freely among all of the phases with the exception of evaluation. The flow of information from the evaluation phase to the selection phase reflects the potential modification of selection phase funding decision criteria resulting from post-deployment reviews. Similarly, the interchange between the management and evaluation phases reflects the exchange of milestone review decision information and the potential modifications to the milestone decision criteria resulting from post-deployment reviews.

Capital Planning requires discipline, executive management involvement, accountability and focus on risks and returns using quantifiable measures. The outcomes of these quantifiable measures against established benchmarks are used to define an IT investment's success. The overall objective of a structured capital planning process is to deliver substantial business benefit to DON. More specific objectives are:

- Facilitate achievement of DON's mission and business objectives.
- Balance potential benefits against costs and risk.

- Align proposed investments with strategic and tactical goals specified in the DON IM/IT Strategic Plan and the IM/IT Investment Strategy.
- Measure performance and net benefit for dollars invested.
- Provide continuous feedback to help senior managers make decisions on new or ongoing investments.
- Ensure that public funds are spent responsibly.

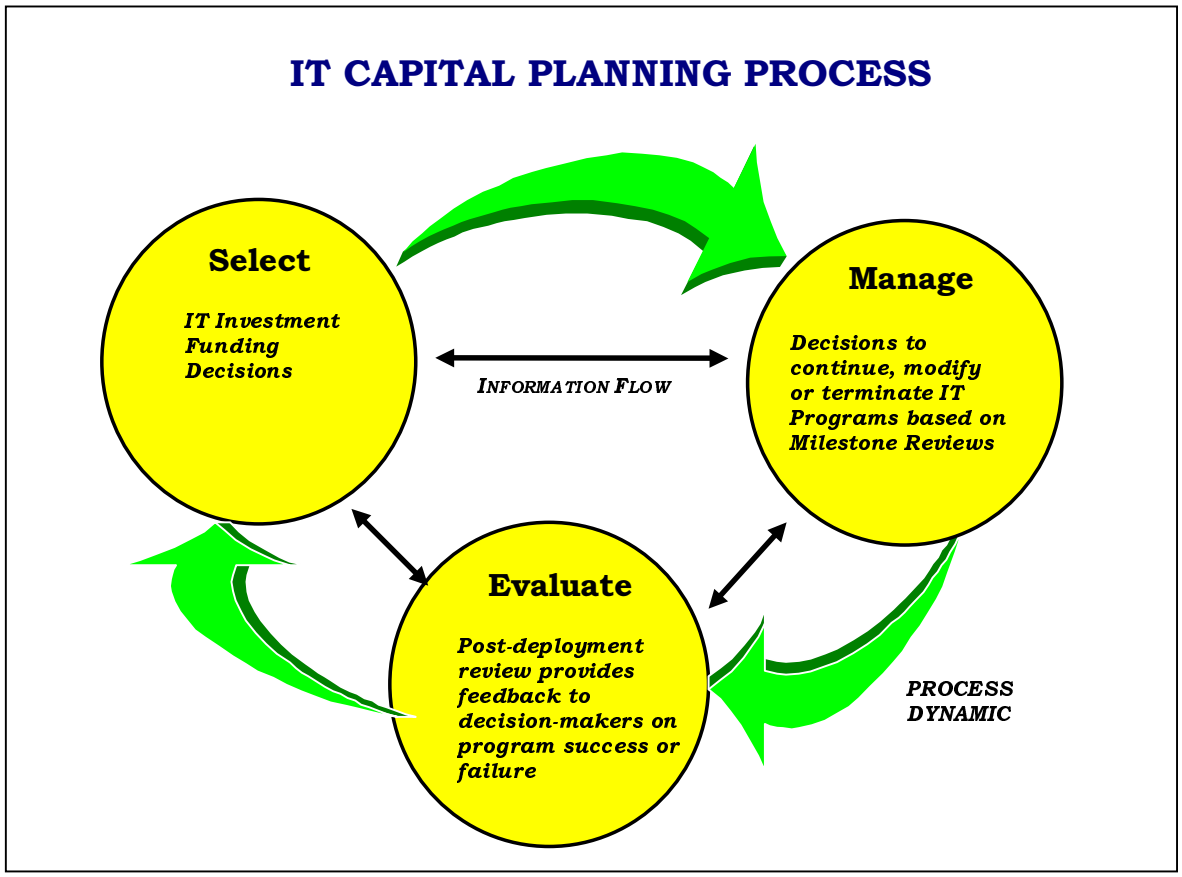


Figure 1-1

Overall, capital planning uses long range planning and existing, institutionalized processes for managing the portfolio of capital assets to achieve performance goals with the lowest life-cycle costs and least risk. These processes should provide management with accurate information on acquisition and life-cycle costs, schedules and performance of current and proposed capital assets. This information will help in making decisions regarding the best use of available funds to achieve strategic goals and objectives.

Chapter 2 - Legislative and Regulatory Background

1. Overview.

Over the last 20 years, Congress has recognized the importance of Information Technology as a force multiplier. Several recent management reforms, including revisions to the Paperwork Reduction Act (PRA), Clinger-Cohen Act, Government Performance and Results Act (GPRA) and the Chief Financial Officers Act (CFOA), require federal agencies to significantly improve their management processes, including how they select, manage and evaluate IT investments. The ultimate goal of these various legislative reforms is for agencies to make better decisions that will measurably increase the performance of the organization. This legislation has been followed by Executive Orders and OMB Circulars. The legislation and associated regulatory requirements, as they relate to capital planning, are summarized below.

2. Clinger-Cohen Act of 1996

The Clinger-Cohen Act of 1996 (also known as the Federal Acquisition Reform Act (FARA) (Division D) and the Information Technology Management Reform Act (ITMRA) (Division E)) was enacted, in part, to address perceived shortcomings by Congress in federal agencies' processes for selecting, managing and evaluating IT investments. A key goal of the Clinger-Cohen Act is for agencies to establish processes and have information in place to ensure that IT projects are being implemented at acceptable cost, within reasonable and expected time-frames, and are contributing to tangible, observable improvements in mission performance. Sections of the law which address the capital planning process and related topics are as follows:

- **Section 5122** requires the Head of each executive agency to design and implement a capital planning and investment control process which will maximize the value and assess and manage the risks of IT acquisitions of the agency. The Capital Planning Process must: (1) Provide for the selection, management and evaluation of results of IT investments; (2) Be integrated with the processes for making budget, financial and program management decisions; (3) Provide for the funding (i.e., selection) of IT investments based on specific minimum criteria which quantitatively and qualitatively expresses the benefits and risks to the mission or business area and which

facilitates comparison and prioritization of competing investment alternatives; (4) Provide for the identification of investments of potential benefit to other Federal, state or local governments; (5) Provide for the identification of net benefits and risks of the investment; and (6) Provide the means for senior management to obtain timely information through milestone reviews on the progress of the investment in terms of cost, schedule, quality and benefits.

- **Section 5123** (Performance and Results-based Management) requires that the Head of each agency: (1) Establish goals for improving agency operations through the effective use of IT; (2) prepare an annual report, to be included in the agency's budget submission to Congress on the progress in achieving those goals; (3) Ensure that performance measures are prescribed for IT and that the measures quantify the benefits of IT to the agency; (4) Quantitatively benchmark agency processes against similar processes in the public and private sectors in terms of cost, speed, productivity and quality of outputs and outcome; (5) Analyze and revise the mission or business processes before making IT investments in support of those processes; and (6) Ensure that information security policies, procedures and practices are adequate.

- **Section 5125** requires the Agency Chief Information Officer (CIO) (in this case, applies to OSD CIO) to monitor the performance of IT programs, evaluate the performance of those programs on the basis of the applicable performance measurements, and advise the head of the agency regarding whether to continue, modify, or terminate an IT program or project. Executive Order 13011 extends this requirement to Military Department CIOs.

- With respect to National Security Systems (NSS), Clinger-Cohen provides for relief in the form of allowing such systems to apply the requirements of the Act only where practicable. Clinger-Cohen expressly provides this authority to be used at the Secretary's discretion. Among the exceptions are Sections 5123 and 5125, discussed above, which must be fully applied to NSS.

- The Head of the executive agency is also required **(Section 5127**) to identify in the agency's IRM Strategic Plan required under Section 3506 (b) (2) of Title 44, US Code (Paperwork Reduction Act), any major IT acquisition program, or any phase or increment of such

program, that has deviated significantly from established cost, schedule or performance goals.

3. Section 381 of the National Defense Authorization Act For Fiscal Year 1995

Section 381 of the National Defense Authorization Act for Fiscal Year 1995, as it relates to capital planning, requires DoD to ensure that Automated Information Systems (AISs) contribute to the achievement of DoD strategies; that the investment provides benefits or otherwise makes substantial contribution to the performance of the Defense mission; and that AISs comply with applicable acquisition policy.

The act also required the Secretary of Defense to report on the establishment and implementation of the performance measures and management controls in fiscal years 1995, 1996, and 1997.

4. Federal Acquisition Streamlining Act (FASA) of 1994

Title V of the FASA contains specific requirements for federal agencies to "define the cost, performance and schedule goals for major acquisition programs" and to monitor and report annually on the degree to which these goals are being met. In their annual reports, agencies must assess whether acquisition programs are achieving 90% of their cost, performance, and schedule goals. Agency Heads are to determine whether there is a continuing need for the programs that are significantly behind schedule, over budget, or not in compliance with the performance or capability requirements and should identify suitable actions to be taken, including termination.

5. Government Performance and Results Act (GPRA) of 1993

This legislation requires the establishment of strategic planning and performance measurement in the federal government. The purposes of the GPRA are to improve federal management and Congressional decision-making, service delivery, program effectiveness, public accountability, and public confidence in government. The GPRA requires agencies to develop agency strategic plans by September 30, 1997, for implementation in FY 1999. OMB has mandated that the strategic plans cover six years and be updated at least every three years. Stakeholders and customers will provide input into the strategic plans.

Starting with FY 1999, agencies are to prepare annual performance plans covering each program activity displayed in the budget. The performance plans are to establish performance goals in objective, quantifiable and measurable form and performance indicators to be used in measuring relevant outputs, service levels and outcomes.

While the intent of GPRA is to address the need for an overall agency strategic and performance plan and not for IT per se, the benefits associated with performance metrics extends to IT investments as well. Performance information gives decision-makers the following benefits: (1) Quantified measures which facilitate the prioritization of competing investment alternatives; (2) Verifiable data on which to base mid-course corrections; and (3) Information which assists in communicating program value to executives, Congress, other stakeholders, and the general public.

6. Paperwork Reduction Act (PRA) of 1995

This legislation is intended to minimize the paperwork burden resulting from the collection of information by or for the Federal Government; coordinate, integrate, and make uniform Federal information resources management policies and practices; improve the quality and use of Federal information to minimize the cost to the Federal Government of the creation, collection, maintenance, use, dissemination, and disposition of information; and ensure that Information Technology is acquired, used, and managed to improve efficiency and effectiveness of Federal agency missions.

The Act requires that each agency:

- Define program information needs and develop strategies, systems and capabilities to meet those needs.

- Develop and maintain a strategic information resources management (IRM) plan that describes how IRM activities help accomplish agency missions. The plan must include plans for reducing information burdens imposed on the public, for enhancing public access to and dissemination of government information and for meeting the IT needs of the government.

- Develop and maintain an ongoing process to ensure that IRM operations and decisions are integrated with organizational planning, budget, financial management, human resources management, and program decisions.

- In cooperation with the agency Chief Financial Officer (or comparable official), develop a full and accurate accounting of Information Technology expenditures, related expenses, and results.

- Establish goals for improving IRM's contribution to program productivity, efficiency, and effectiveness, methods for measuring progress towards those goals, and clear roles and responsibilities for achieving those goals.
- Maintain a current and complete inventory of the agency's information resources.

- Conduct formal training programs to educate agency program and management officials about IRM.

The provisions of the PRA were reinforced and expanded by the Clinger-Cohen Act of 1996.

7. Chief Financial Officers' Act (CFOA) of 1990

This legislation was enacted to accomplish these objectives:

- Bring more effective general and financial management practices to the Federal Government through statutory provisions which would establish a Deputy Director for Management in the Office of Management and Budget and an Office of Federal Financial Management headed by a Comptroller and designate a Chief Financial Officer in each executive department and in each major executive agency in the Federal Government.

- Provide for improvement, in each agency of the Federal Government, in accounting and financial management systems and internal controls to assure the issuance of reliable financial information and to deter fraud, waste, and abuse of Government resources.

- Provide for the production of complete, reliable, timely, and consistent financial information for use by the executive branch of the Government and the Congress in the financing, management, and evaluation of Federal programs.

The CFO Act requires agencies to include performance measurement data in their annual financial statements.

8. OMB Circular A-11, Part 2: Preparation and Submission of Strategic Plans

This section of OMB Circular A-11 provides guidance for preparing and submitting the overall Agency (non-IT) strategic and performance plans required by the GPRA. Agency strategic plans provide the framework for implementing all other parts of GPRA and are a key component of the effort to improve performance of government programs and operations. Complementing the strategic plans are annual performance plans that set annual goals with measurable target levels of performance and annual performance reports that compare actual performance to the annual goals. Together, these two reports provide the means for the federal government to "manage for results".

9. OMB Circular A-11, Part 3: Planning, Budgeting, and Acquisition of Fixed Assets

This section of OMB Circular A-11 provides guidance on planning, budgeting, and acquisition management of fixed assets, which include Information Technology capital assets (business and NSS applications); requires agencies to provide information on these assets in their budget submissions to OMB; and includes guidelines for planning. Part 3 also provides unified guidance designed to coordinate the collection of agency information for OMB reports to Congress for the FASA of 1994 (Title V) and the Clinger-Cohen Act of 1996 and to ensure that acquisition plans support mission statements, long-term goals and objectives, and annual performance plans developed pursuant to the GPRA of 1993. Under FASA, OMB is required to report on the cost, schedule and performance goals for asset acquisitions and how well agencies are meeting those goals. Clinger-Cohen requires that OMB report on program performance in information systems and how benefits relate to accomplishing the goals of the executive agency. GPRA requires agencies to develop mission statements, long-range strategic goals and objectives and annual performance plans. Agency submissions under Part 3 of OMB Circular A-11 allow OMB to fulfill its reporting responsibilities under FASA and Clinger-Cohen.

10. OMB Circular A-130: Management of Federal Information Resources

This circular provides uniform government-wide information resources management policies on Federal Information Management/Information Technology (IM/IT) resources as required by the PRA of 1980 and amended by the PRA of 1995. Specific requirements of A-130 include:

- Agencies are to promote the appropriate application of IT resources by (1) seeking opportunities to improve the effectiveness and efficiency of government programs through work process redesign; (2) preparing and updating a cost-benefit analysis for each information system as necessary throughout its life-cycle; (3) conducting cost-benefit analyses to support on-going management oversight processes; and (4) conducting post-implementation reviews of information systems to validate estimated benefits and document effective management practices.

- Agencies are to establish and maintain (1) Strategic IRM planning that addresses how management of IT resources promotes the fulfillment of the agency's mission; (2) Information planning that promotes the use of information throughout its life-cycle to maximize the usefulness of the information, minimize the burden on the public, and preserve the appropriate integrity, availability, and confidentiality of the information; (3) Operational strategic IM/IT planning that links IT to anticipated program and mission needs, reflects budget constraints, and forms the basis for budget requests.

- Agencies are to establish information system management oversight mechanisms which (1) Ensure that each information system meets agency mission requirements; (2) Provide for periodic review of information systems; (3) Ensure the official who administers a program supported by an information system is responsible and accountable for the management of the information system throughout its life-cycle; (4) Provide for appropriate training for IT users; (5) Ensure that federal information system requirements do not unduly restrict prerogatives of state or local governments; (6) Ensure that major information systems proceed in a timely fashion toward agreed-upon milestones, meet user requirements, and deliver intended benefits; and (7) Ensure financial management systems conform to the requirements of OMB Circular A-127 (i.e., policies and standards for developing, operating, evaluating and reporting on financial systems).

11. OMB Memorandum M-97-02, Funding Information Systems Investments

This memorandum establishes eight decision criteria (i.e., commonly referred to as "Raines Rules") which OMB will use, starting with the FY 1998 budget request, to evaluate major information system investments proposed for funding in the President's budget. The first four decision criteria describe

criteria specifically related to capital planning. The fifth criterion establishes the critical link between planning and implementation, the information architecture, which aligns technology with mission goals. The last three criteria establish risk management principles that are intended to help provide assurance that the proposed investment will achieve the projected benefits.

12. Executive Order 13011, Federal Information Technology

Executive Order 13011, "Federal Information Technology," highlights the need for executive agencies to significantly improve the management of their information systems, including the acquisition of information technology, by implementing the relevant provisions of PRA, the Clinger-Cohen Act, and GPRA. Agencies are to refocus their information technology management to directly support their strategic missions, implement an investment review process that drives budget formulation and execution for information systems, and rethink and restructure the way they perform their functions before investing in information technology to support that work. Agency heads are to strengthen the quality and decisions of employing information resources to meet mission needs through integrated analysis, planning, budgeting, and evaluation processes.

Chapter 3 - Related Processes/Topics

1. DON IM/IT STRATEGIC PLANNING

a) Overview

The purpose of the DON IM/IT strategic plan is to provide an enterprise view of the DON long-term IM/IT vision, goals and objectives and the role of Information Technology in support of the business and tactical missions of the DON. Department-wide IM/IT strategic planning is key to ensuring that decisions on IT investments are effectively targeted to support the DON mission priorities. To be effective, the IM/IT strategic plan must:

- State senior leadership priorities for IM/IT;
- Reflect vertically, the overall non-IM/IT mission priorities of DON and DOD; and provide a focused framework for linked implementation of all IM/IT initiatives within DON; and,
- Establish performance measures to determine progress towards accomplishing objectives.

Strategic planning is a continuous and systematic process where decisions are made about desired future outcomes, how outcomes are to be accomplished, and how success is to be measured and evaluated. A Strategic Plan contains a vision statement, guiding principles, a mission statement, goals, objectives, planning strategies and performance measures. A brief description of the core elements of a Strategic Plan follows:

- The Strategic Plan begins with the "vision". A vision is the total outcome of all organizational efforts over an established period of time. The DON IM/IT vision is a description of the role IM/IT will play in the future. The vision paints a picture of the future direction of IM/IT and its effect on the warfighter and support functions, both at home and deployed. The vision is developed by leaders; is shared and supported throughout the Department; is comprehensive and precise; is positive and inspiring; and, is substantially different from what we do today.
- The "guiding principles" are statements of values and philosophy of the organization that guide the behavior and shape the decisions of

its members. They affect the implementation of the planning process, and provide standards by which people are influenced in choice of actions. Guiding principles provide an opportunity to identify discrepancies between what people want their organization to be and what it is. Guiding principles are a matter of personal and organizational choice to guide behavior within the organization.

- The "mission" is an enduring statement of purpose, which describes "what" the organization does (functions, products, and services), "who" it supports (the customers and clients), and "how" it is accomplished (the activities, technology, methods, and processes). The mission reflects the over-arching critical activities of the organization.

- "Goals" and "objectives" describe the general results the organization intends to achieve. Goals are written statements that describe an intended outcome. Objectives clearly describe measurable targets of achievement.

- "Planning Strategies" delineate the Department's approaches for achieving the stated objectives.

- A "performance measure" is a standard used to measure success in achieving an objective. The performance measure describes the precise measurement that will generate a quantitative (or qualitative) indicator that explicitly or implicitly indicates progress towards achieving the objective. Because performance measures derive directly from objectives, their usefulness depends on the quality of the objectives. To the degree that the objectives describe true outcomes, the related performance measures will describe effectiveness. To the degree that they describe products, or activity outputs, the related performance measures will describe efficiency.

A sample model of a Strategic Planning process is contained in Appendix B.

b) Benefits of Strategic Planning

Strategic Planning brings to light the senior leadership IM/IT priorities of the DON, and provides a focus for all programs, projects, actions, and initiatives being resourced to further those priorities. The strategic planning process helps improve both the efficiency and effectiveness of the activity. The most obvious benefit of the strategic planning process is that it gets the

whole organization moving in the same direction (i.e., with a common vision or set of goals). Unity of purpose improves the whole organization's effectiveness. As all the subgroups contribute to others' activities, the synergy of their efforts will advance the organization much more rapidly toward its goals. For these reasons, agreement on these directional issues is critical. Therefore, the most valuable benefit of strategic planning lies in the process, rather than in the document itself. While the actual product may be out-of-date soon after publication, the benefits of the process will be more lasting. The process of strategic planning compels organizations to develop an agreed-upon vision of the future, and to create realistic, measurable, results-oriented objectives.

Achieving consensus requires the open and constructive participation of everyone in the DON IM/IT community. Because it focuses on purpose, participatory strategic planning improves teamwork. Better teamwork enhances the synergy effect, and improves effectiveness throughout the agency's system. Participatory strategic planning also improves participants' "buy-in" to the plan because people tend to support and defend what they help create.

Understanding the relationship of the DON IM/IT strategic planning process to the Capital Planning process is essential for effective IT investment decision-making.

c) Capital Planning and IT Strategic Planning

IM/IT Strategic Planning is the "foundation" or "first step" of the capital planning process. It defines the DON IM/IT vision, guiding principles, mission, goals, objectives and planning strategies and provides the basis for organizational development of annual IM/IT investment strategies (discussed below) to support the missions and objectives. The IM/IT Strategic Plan sets broad direction, goals and objectives for managing information and supporting delivery of IT services to DON customers and identifies the broad IM/IT initiatives to be undertaken to accomplish the desired mission and goals.

The DON IM/IT Strategic Plan is the source document for development of an IM/IT Investment Strategy. The IM/IT Investment Strategy is the "driver" of Capital Planning. During the Capital Planning process, the specific IM/IT investments that support the Investment Strategies are identified, approved, funded and managed.

d) IM/IT Investment Strategy

While the DON IM/IT Strategic Plan reflects broad Departmental IM/IT goals, objectives and supporting planning strategies, a jointly-developed Navy (OPNAV) and Marine Corps (MC) annual IM/IT Investment Strategy is needed to assist MC and Navy PPBS decision-makers in making IT investment funding decisions during Program Objective Memorandum (POM) or budget development. Investment strategies provide the "roadmap" for allocation of resources to achieve the goals, objectives and supporting planning strategies contained in the DON IM/IT Strategic Plan. In the investment strategies step, planners identify all the alternative approaches, rate them in terms of their estimated effectiveness in achieving an objective, and select a strategy or set of strategies that will best achieve the level of performance specified for that objective in the Strategic Plan. Navy and MC managers are then able to evaluate individual investment alternatives against the strategies to ascertain if the investments facilitate achievement of those strategies as one prerequisite for acquisition or funding approval. The following example illustrates the hierarchical relationship between the Strategic Plan's "Goal", "Objective", "Planning Strategy" and the supporting "Investment Strategy":

Example

Goal: Ensure DON's vital information resources are secure and protected.

Objective: By the year 20XX, 80% of DON information systems and networks will be secure and protected.

Planning Strategy: Build information assurance (IA) standards, architectures and tools for Department-wide implementation.

Investment Strategy: Procure only software that complies with Department approved IA standards.

Figure 3-1 illustrates the inter-relationship between IT Strategic Planning, Investment Strategy and the Selection phase of the Capital Planning Process.

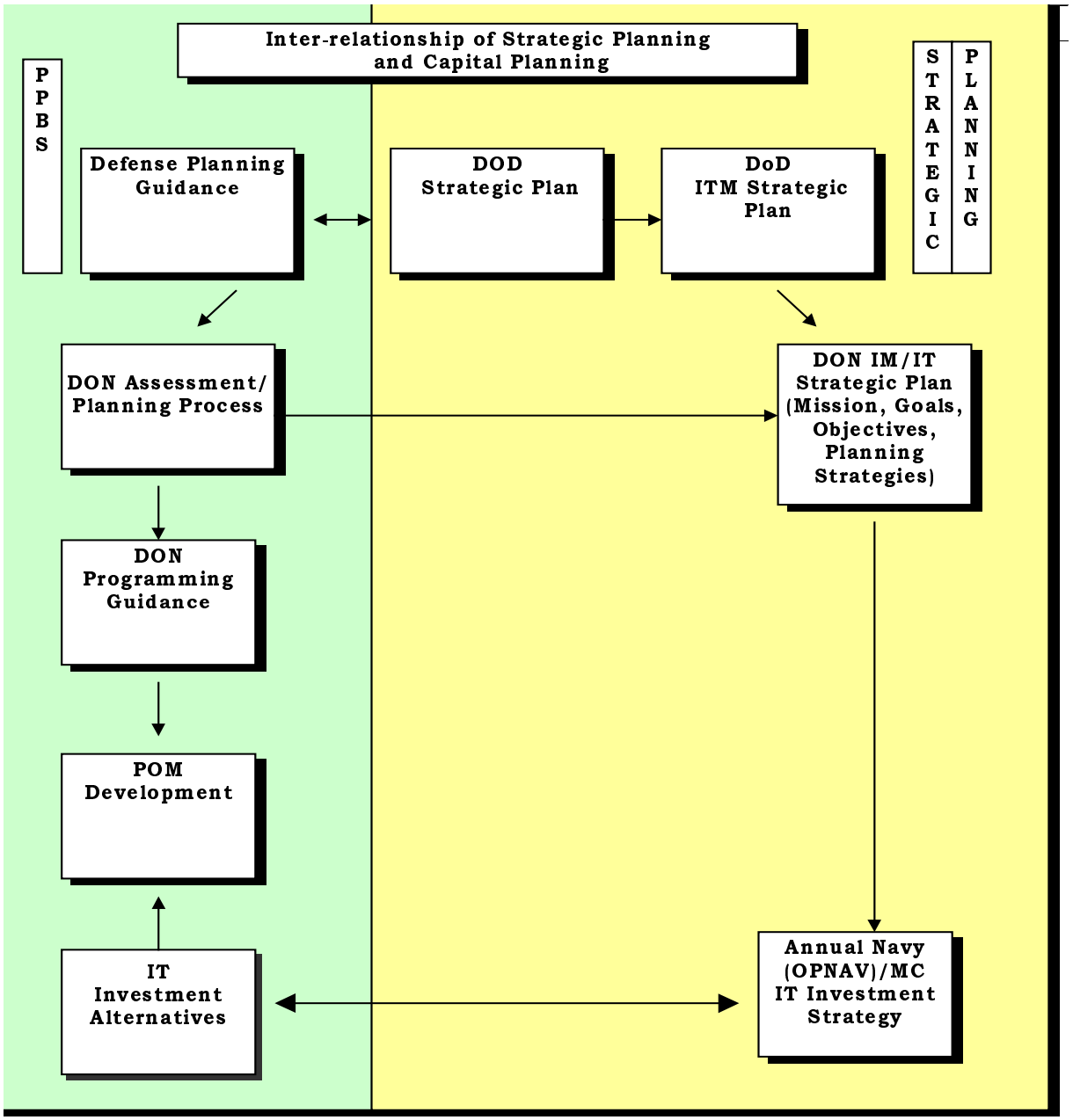


Figure 3-1

2. BUSINESS PROCESS REENGINEERING

a) Overview

The term "Business Process Reengineering (BPR)" is used to describe a process, which calls for radical re-thinking of the way business and/or operational processes are conducted. BPR involves the redesign of entire processes, including cross functional, as opposed to automating existing functions or automating improvements to existing functions (i.e., business process improvement (BPI); see footnote[1] below for definition). BPR requires a complete analysis and design of workflows and processes within and between organizations and/or functions. The main objectives are to make processes effective, efficient and flexible and in alignment with mission requirements. Reengineering focuses on satisfying end-user/customer requirements and expectations. A well-designed process adds value to all stakeholders during each activity in the process; enhances delivery of products and services; and, facilitates achievement of performance goals.

The key to reengineering lies in the commitment to start afresh with no preconceived notions as to the best way to do business, the methods employed, or to the technology used in producing goods or services. It is a clean slate approach to problem solving. The approach also emphasizes customers and stakeholders. The organization must be willing to set aside old methods, policies and procedures in the interest of making improvements.

An underlying principle of reengineering is the examination of a business or functional area from top to bottom and across all related functions. The purpose of this examination is to identify ways to alter the manner in which business is conducted to make it more efficient to achieve improvements in critical measures, such as, quality, speed, service and usefulness and reliability of information.

[1] BPI: The application of a structure methodology to define a function's or business' "As-Is" environment, its objectives and strategies for achieving those objectives, and a program of incremental improvements made thru functional, technical, and economic analysis and decision-making.

Once a process has been redesigned, it should be subject to regular scrutiny through the application of performance measurements, which provide the feedback necessary to assess the continued effectiveness of the process. A sample BPR model/process is contained in Appendix C.

Figure 3-2 below illustrates the BPR Process flow:

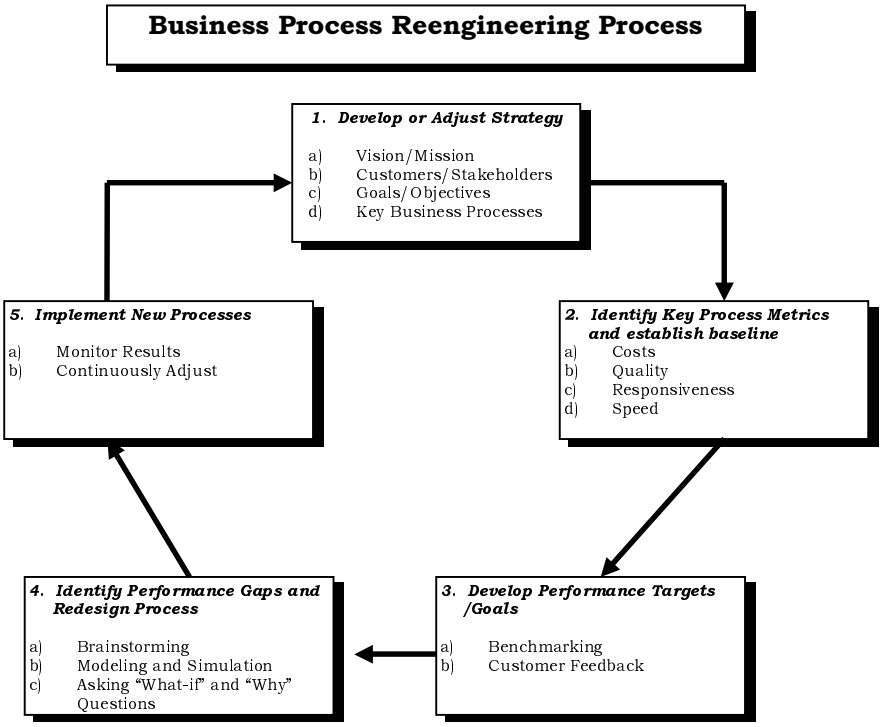


Figure 3-2

b) Business Process Reengineering and Capital Planning

The Clinger-Cohen Act views BPR as one of the essential elements in the investment decision process. Section 5123 (5) states that the Head of each agency shall analyze the missions of the executive agency and, based on the analysis, revise the executive agency's mission-related and administrative processes as appropriate before making significant investments in Information Technology which support performance of those missions. OMB's "Raines Rules" also points out that major information systems investments should " Support work processes that have been simplified or otherwise redesigned to reduce costs and improve effectiveness....". As a precursor to the investment decision, Navy and Marine Corps managers should evaluate whether their current process(es) should be reengineered. The outcome of this effort should support

management's decision on the appropriate IT investment(s) to make or whether an IT investment is necessary.

The DON CIO is responsible for the enterprise process model and operational architecture. Most changes to DON's core processes involve significant changes in the way the IT operational architecture supports the enterprise process, and may require additional investment in IT infrastructure. Therefore, it is crucial that the DON CIO be advised of significant process reengineering initiatives. This should occur at the inception of the initiative as well as at the conclusion of the initiative. Any potential changes to core processes and architecture, and the results of reengineering activities should be reported to the DON CIO to ensure that the changes can be supported.

BPR is used when there is a substantial gap between what customers and stakeholders expect and actual organizational performance, and where the potential payoffs outweigh the risks of change. Reengineering can bring about these expected levels of improvement. Reengineering requires that organizations recognize problems and dramatically change the way business is done in order to eliminate these problems. Information Technology is a key enabler to successful reengineering; it offers information capabilities to a broad universe of people, giving them powerful tools for streamlining their work. However, successful reengineering requires changes in the way business is conducted. Information Technology primarily serves a supporting role. Department of the Navy managers, the "owners" of these functional processes, must exercise visible leadership in championing this form of change.

3. PERFORMANCE MEASURES

a) Overview

Section 5123 (3) of the Clinger-Cohen Act requires the Agency Head to ensure that performance measurements are prescribed for Information Technology (IT) used by or to be acquired for the agency and that the performance measurements measure how well the IT investment supports programs of the Agency. Clinger-Cohen (Section 5125 (c) (2)) also requires that the Agency CIO (i.e., OSD CIO) monitor and review the performance of IT programs on the basis of performance measurements and advise the Agency Head to continue, modify or terminate programs based on those reviews. This requirement extends to the DON CIO via Executive Order 13011.

IT performance measurement can be defined as:

> The assessment of effectiveness and efficiency of IT in support of the achievement of an organization's missions, goals, and quantitative objectives through the application of output and outcome based, measurable, and quantifiable criteria, compared against an established baseline.

One of the decision criteria in OMB Memo 97-07 (i.e., Raines Rules) poses the question: "What is the value or contribution of IT to the mission of our organization?". Managers want to know how IT can contribute to making the organization's mission more economical, more efficient and more effective. Performance measures provide the means to assess effectiveness and efficiency.

Effectiveness demonstrates that an organization is doing the right things; efficiency demonstrates that an organization is doing things optimally.

⇒ Effectiveness is doing the "RIGHT" things:
- Achievement of missions and goals
- Customer satisfaction
- Quality of work
- Appropriateness of work

⇒ Important effectiveness questions are:
- Has the organization achieved its missions and goals?
- Are end users of its products and services satisfied customers?
- Was the work of high quality?

⇒ Efficiency is doing things by employing the "BEST" use of available resources.
- Quantity of work
- Cost of work
- Timeliness of delivery (schedule)
- Responsiveness to changing requirements

⇒ Typical efficiency measures relate to inputs, outputs, and processes, and might include the following questions:
- Do obligation rates match the annual budget?
- Was the IM/IT effort completed on time and on budget?
- How much of the product and service was produced?

- How many employees or full-time equivalents (FTEs) were required?

Evaluation of an IT program's effectiveness and efficiency begins with the establishment of a performance measurement baseline which assesses the quality of the function supported. Performance measures are developed based on expected outcomes, assessed against the baseline, and continually monitored to determine whether they are being achieved. Individual measures are defined and then quantified with targets and thresholds to form the performance measurement baseline.

b) Performance Measure Tiers

There are three tiers or levels of performance measures within DON, as shown in Figure 3-3:

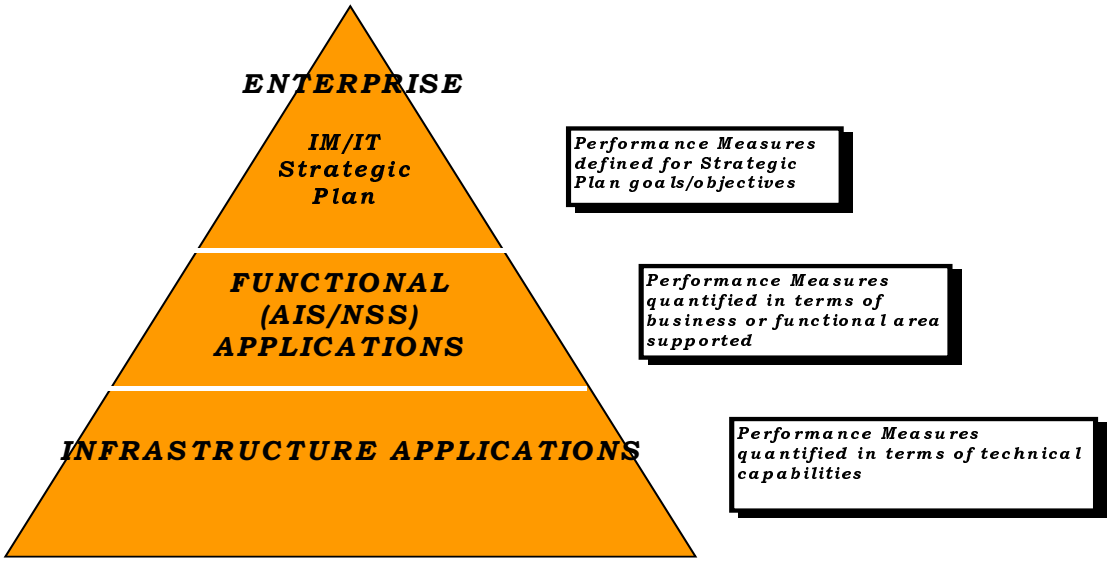


Figure 3-3 Levels of Performance Measures

1) Enterprise Level

At the enterprise level, the focus is on performance measures, which relate to the initiatives supporting the objectives defined in the DON IT Strategic plan. These performance measures are usually defined in terms of "outcomes" which measure the effectiveness of the initiatives in achieving the objectives. While broad in scope, these Department-level performance measures have the degree of specificity needed to measure progress/success. The more specific the objective, the easier it is to develop performance

measures. Conversely, the less specific the objective, the more difficult it will be to develop meaningful measures of performance outcomes. Clear strategic objectives, definitive critical success factors and performance measures are necessary prerequisites to making wise IT investment selection decisions which support the annual Investment Strategy and goals and objectives reflected in the DON IM/IT Strategic Plan.

2) Functional Level

At the functional level, the focus is on developing IT investment performance measures which quantify benefits to the business area supported by the AIS. To be relevant, these performance measures must be defined in terms of outputs or outcomes which are meaningful to the functional or business area. The functional level is where the interests of the user community are directly represented. As the AIS is being acquired, however, the focus is on the metrics that gauge the success of the acquisition program. Traditionally these take the form of cost, schedule, and performance metrics, including earned value and many of the "efficiency" metrics cited above. As modules are deployed, managers begin to look for progress in achieving functional performance goals.

3) Infrastructure Level

IT investments which support more than one AIS or functional area are considered investments in "infrastructure". Examples of infrastructure include Local Area Networks/Metropolitan Area Networks/Wide Area Networks (LANs/MANs/WANs), communication lines/switches, common or shared hardware, etc. Because infrastructure investments are shared utilities, it is more difficult to express performance measures for infrastructure investments in terms of functional or business area outcomes or outputs. Instead, IT infrastructure performance measures are normally defined in terms of customer satisfaction or "technical" outputs, outcomes or improvements (e.g., interoperability, interconnectivity, CPU cycles, I/O transactions, bandwidth, etc.). This level involves the collection of information concerning the outcome/result of the IT investment's performance in technical terms and the comparison of actual performance against projected performance for that investment. Furthermore, it calls for customer-oriented measures that assess the quality of infrastructure support. Further guidance on IT performance measures can be found in the IT Standards Guidance (ITSG) document (v 98.1, Chapter 10).

c) Performance Measures and Capital Planning

Section 5122 (b) of the Clinger-Cohen Act requires that the Agency's Capital Planning Process "include minimum criteria to be applied in considering whether to undertake a particular investment including.... specific quantitative and qualitative criteria for comparing and prioritizing alternative information systems investment projects and .... identifying for a proposed investment quantifiable measurements for determining the net benefits and risks of the investment".

Accordingly, the DON has adopted performance measures (see Appendix D) as one of the minimum criteria to be considered in making IT investment funding decisions. While it is understood that not all IT investments will result in performance improvements (e.g., economical purchase of leased equipment), performance measures are required whenever improvements in performance result and for all IT investments which will not produce savings or cost avoidances. Rationale is that either savings/cost avoidances or performance improvements must be present to warrant investments in Information Technology. During the selection phase of Capital Planning, performance measures for individual IT investments, expressed in terms of metrics (i.e., outputs or outcomes) relevant to the mission or business area for functional applications or improved technical capability for infrastructure applications, are one of the minimum criteria to be considered in deciding whether to fund an investment.

Similarly, performance measures are examined during the Management and Evaluation phases of the DON Capital Planning Process. During the acquisition process, performance measures are developed by IT program managers and monitored routinely during milestone reviews by milestone decision authorities. If necessary, the measures are adjusted periodically to reflect realistic targets based on actual experience. During milestone reviews, metrics are used as one of the critical factors in deciding whether to continue, modify or terminate a particular program. During the Post-deployment Review (PDR), which occurs during the Evaluation phase of the Capital Planning Process, actual performance improvements versus those that were projected to have occurred are examined as part of the review. In summary, performance measures are a relevant consideration during all three phases (i.e., Selection, Management, Evaluation) of the DON Capital Planning Process.

Chapter 4 - Information Technology (IT) Capital Planning Process

1. Introduction

The Clinger-Cohen Act of 1996, Section 5122, requires that the Head of the Executive Agency implement an IT investment "capital planning process" which:

(1) Provides for the selection, management and evaluation of IT investments;
(2) Is integrated with the processes for making budget, financial and program management decisions;
(3) Bases IT investment funding decisions on minimum criteria which facilitate the comparison and prioritization of competing IT investment alternatives;
(4) Provides for the identification of investments with potential benefits to other governmental agencies;
(5) Provides for the identification of measurements which quantify the risks and benefits of the investment to the mission or business area; and
(6) Provides the means for Agency management personnel to obtain timely information regarding the progress of the IT investment including the status of meeting specified milestones in terms of cost, schedule, quality, etc.

Rather than creating a parallel capital planning process for IT investments, Office of Secretary of Defense (OSD) and the Military Departments (MILDEPs) have agreed to use the existing Acquisition and Planning, Programming and Budgeting System (PPBS) processes to select, manage and evaluate IT investments over their life-cycles.

Use of the existing, institutionalized Acquisition and PPBS processes ensures that IT investments are selected for funding based on contribution to mission accomplishment, incorporated appropriately into the Department's overall investment portfolio, and monitored and evaluated for outcome/output periodically and routinely over their life-cycles.

The following diagram (Figure 4-1) depicts the relationship between the three phases of Capital Planning and the PPBS and Acquisition processes:

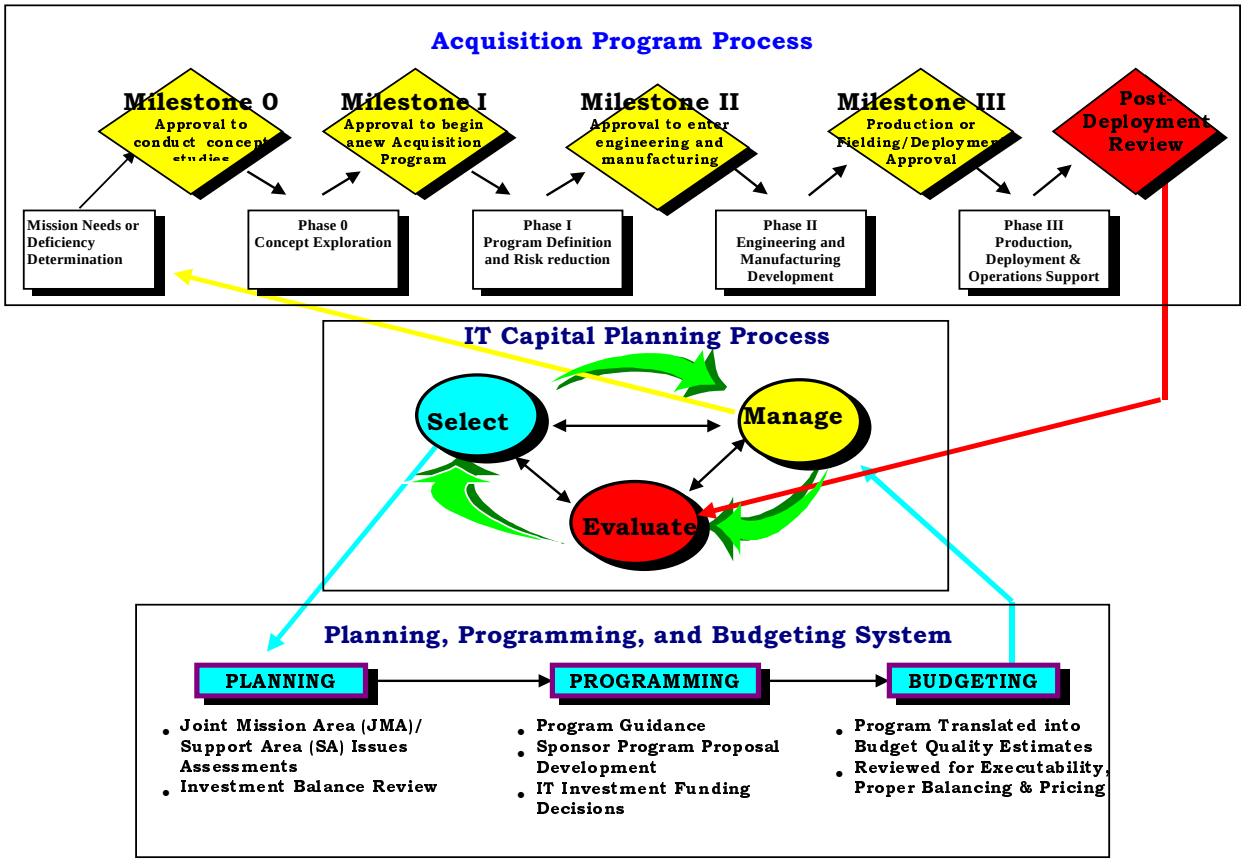


Figure 4-1

Following is a discussion of the separate selection, management and evaluation phases of the DON IT capital planning process.

2. CAPITAL PLANNING: "SELECTION" PHASE

a) Overview

During the selection phase of the capital planning process, the benefits, costs and risk information of all projects are analyzed and assessed for purposes of making funding decisions. Each project is supported by a business case developed during the management phase of the process. The business case identifies the organizational needs that the project is meeting or proposes to meet; provides information on the benefits, costs, and risks of the project; and establishes proposed project development time frames and delivery schedules. The information in the business case is continuously updated to ensure that it reflects the current situation. After each project's costs, risk, and benefits are examined and validated, the funding sponsor

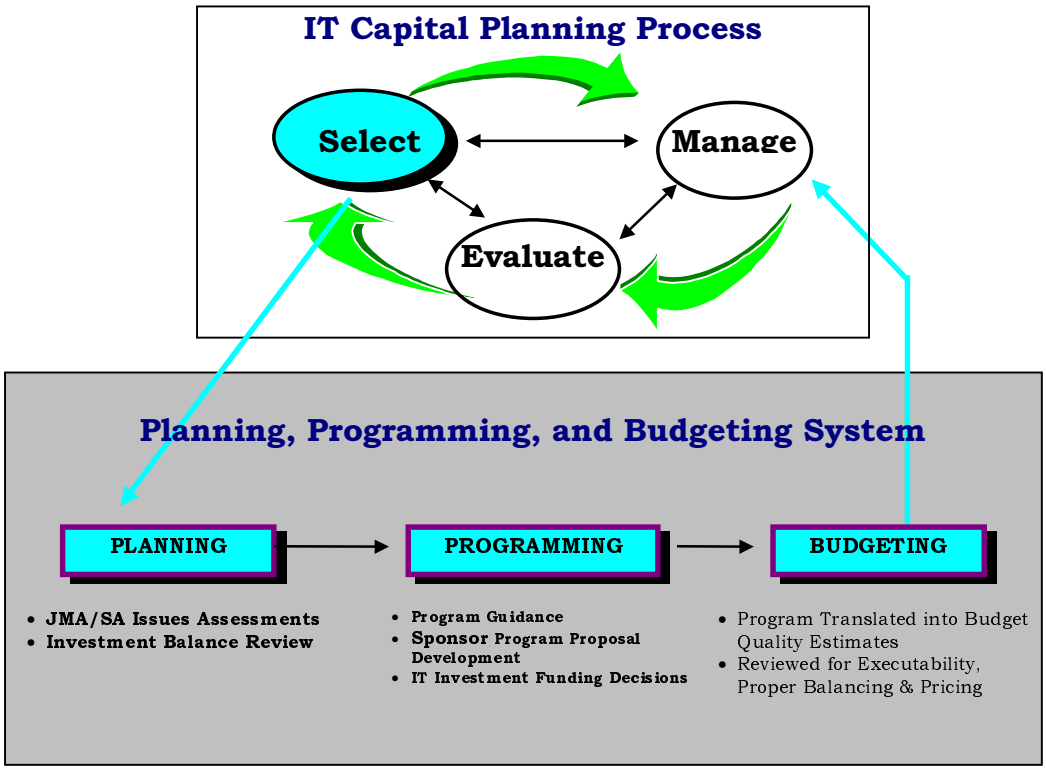
compares all of the projects against common decision criteria in order to weigh the relative merits of the projects against one another and against other investment alternatives. As is the case with all investments, the actual decision to fund an IT investment in the final analysis is a function of affordability and the relative importance of the IT asset to mission accomplishment, compared to other investments.

The selection phase takes place during the PPBS process. This is the phase of Capital Planning when the actual investment funding allocation decisions are made. In the DON, this occurs during the programming or POM development phase of PPBS when decisions related to policy implementation, program levels, program direction and affordability are addressed based on guidance flowing from the planning phase. Following are discussions of the Navy and the MC planning and programming phases of PPBS, with focus on the IT investment funding decision-making process. Separate discussions for Navy and MC are provided due to differences in the Services' planning and programming processes. Also provided is a discussion of the DON budget process, which is identical for both the Navy and MC.

b) Planning, Programming and Budgeting Process (PPBS)

Responsibility for planning and programming are delegated to the two separate Naval services, Navy and MC, with staff offices consolidating a Departmental product for the Secretary of the Navy (SECNAV) who is the final decision-maker. In the planning phase of PPBS, the DON Office of Program Appraisal (OPA) coordinates the work of the two Services' planning offices (the two Deputy Chiefs of Naval Operations for Plans, Policy and Operations (N3/5) and the MC Plans Division (MC-PL)). These offices work with OSD and Joint Chiefs of Staff (JCS) planning staffs during preparation and review of draft Defense Planning Guidance. Program planning and preparation of the two Services' POMs are conducted separately by the Chief of Naval Operations (CNO) General Planning and Programming Division (N80) and the MC Deputy Chief of Staff, Programs and Resources (P&R), with a combined DON POM submitted to OSD by the Department of Navy Program Information Center (DONPIC). The DON budgeting process commences upon completion of the POM and is the responsibility of SECNAV.

Figure 4-2 depicts the "Selection Phase" of DON IT Capital Planning Process.



1) Navy and Marine Corps Planning

The foundation of DON warfare assessment is the Integrated Warfare Architecture (IWAR) process, which replaced the Joint Mission Area/Support Area (JMA/SA) process in the fall of 1998. Multi-disciplinary Integrated Product Teams (IPTs) composed of members of the Navy, MC and the Secretariat meet regularly throughout the year independent of the PPBS process to conduct end-to-end capabilities-based analyses of the Navy's core investment areas, include Air and Sea Dominance, Power Projection, Deterrence, Information Superiority, Sustainment, Infrastructure, Manpower, Readiness, Training and Education, Technology and Force Structure. The IWARs analyze issues such as relative contribution, criticality, costs versus benefits, synchronization, and sustainability with respect to specific capability investments. The analyses are shaped by policy and planning guidance, such as the Quadrennial Defense Review, Defense Planning Guidance, CNO's Long Range Planning Objectives, Congressional actions, etc., and form the basis for the DONs near, mid and long term investment strategy.

The principal products of the IWAR process are description documents that feed the development of the CNO's Program Analysis

Memorandum (CPAM), which replaced the Investment Balance Review (IBR) beginning with Program Review 2001 (PR 01). The CPAM is a decision document constructed following detailed analyses of the IWARs and is intended to produce a balanced investment recommendation to the Department's senior leadership across all DON warfare capability areas. It includes not only detailed "health" assessments of the DON's core warfighting and support capabilities but also specific investment and trade-off recommendations. The CPAM also provides the bases for the programming guidance forwarded to resource sponsors each year early in the programming cycle. The outcome of the above Departmental planning process, along with OSD IM/IT Strategic Planning guidance, serves as the basis for the development of the goals, objectives, strategies and initiatives reflected in the annual DON IM/IT Strategic Plan.

Summaries of the IWARs and CPAM are briefed to the IR3B and the DPSB each year. The IR3B is chaired by N8 and Commanding General, MC Combat Development Command (CDC), and is composed of Navy representatives of the Resources and Requirements Review Board (R3B), plus senior MC and DON Secretariat leadership. The R3B is the focal point for discussion of Navy assessment issues, while the IR3B is the focal point of the DON assessment process. In the planning phase, it reviews recommendations of the IWARs/CPAM and makes programmatic recommendations for POM development. The DPSB, chaired by the Secretary of the Navy, resolves policy issues and reviews programs at the top level of DON management during the PPBS process (see Appendix E for R3B, IR3B and DPSB membership).

2) Navy Programming

The Navy programming cycle commences with issuance of Preliminary Program Guidance, which documents initial investment guidance for Navy programs based on results of DON IWARs, the CPAM and the DON Programming Guidance issued by the SECNAV. Upon receipt of this guidance, Navy Resource Sponsors adjust their programs to meet fiscal and programmatic direction. This is also the Sponsor’s opportunity to make technical corrections, fact-of-life cost adjustments and other zero-sum changes within the bounds of the fiscal guidance to reflect program changes. The product of this process is the Sponsor Program Proposal (SPP) which is the translation of planning guidance into specific Resource Sponsor programs and program levels. In the final phases of the POM, the primary review forum for Navy programs is the R3B which is comprised of Navy (OPNAV) senior leadership. The R3B reviews SPPs and the proposed Navy program before final approval by the CNO and SECNAV.

Navy Resource Sponsors and claimants review all IT investments (see Appendices F &G) under their cognizance to ensure that IT investment funding decisions are consistent with the annual IM/IT Investment Strategy and are based on measures which quantify the benefits to their respective mission, business or functional area. Similarly, IT investments are reviewed by the MC as a prerequisite for funding against the annual IM/IT Investment Strategy and against the same minimum decision criteria used by Navy Resource Sponsors and claimants (see Appendix H). Minimum criteria examined as a prerequisite for funding include: (1) Savings and/or cost avoidances, if applicable; (2) ROI and/or Net Present Value (NPV) where savings/cost avoidances are concerned; (3) Quantified performance improvements which will result from the investment; (4) Relationship to DOD/DON mission goals and objectives; and (5) Risk. These criteria are attached at Appendix D.

Appendix I is an example of an investment criteria ranking scorecard. The Organizational Portfolio Planning Model at Appendix J contains guidance on IT investment ranking which can be used at any organizational level.

The review of IT investments during the selection phase focuses on savings/cost avoidances and/or performance improvements resulting from "development and modernization" (Dev/Mod) funding. Steady-state, operations (i.e., "current services" only; no Dev/Mod) funding requirements for operational IT systems/programs are not normally reviewed by PPBS decision-makers during POM or budget development because any projected savings would have been previously recouped from total obligation authority during development of those systems, and any performance improvements would have been already realized upon full deployment. [Definitions of "Dev/Mod" and "current services" may be found in DoD 7000-14R, Financial Management Regulation, Volume 2B, paragraph 180203, of July 1996.) However, such operational systems are reviewed for potential modification or termination by milestone decision authorities (MDAs) and customers on an exception basis and by the NAVAUDSVC during the post-deployment review (evaluation phase). Decisions from these reviews are communicated to DON PPBS decision-makers and reflected appropriately in the POM or budget submissions.

In reviewing these IT investments for potential funding, Navy Resource Sponsors and claimants are in a unique position to evaluate the benefits and risk to the mission or business areas and the relationship of the investment to overall mission goals/objectives. For this reason and because IT is not a "program" but rather a support function or utility, a Navy-wide

review of IT investments which would seek to prioritize investments between Sponsors or between claimants is not considered appropriate. A particular Resource Sponsor's or claimant's overall investment portfolio will reflect his/her evaluation of the IT investments required to fulfill his/her mission and goals in accordance with direction from the assessment process, the CPAM and the DON Programming Guidance.

3) Marine Corps Programming

Programming in the MC differs somewhat from the Navy's process. The MC reviews POM proposals concerning operations, personnel, material and systems by unique Marine Corps mission areas. Coordinated by the Deputy Chief of Staff (D/CS), Plans and Resources (P&R), the MC POM submission is developed by the POM Working Group (PWG) and reviewed by the MC Program Review Group (PRG). The PWG is responsible for prioritizing and recommending funding profiles for all requested programs within the MC POM. After review of the PWG recommendations by the PRG, proposals are forwarded to the Assistant Commandant's Executive Steering Committee (ESC) for final program review. Following this review, the draft MC POM submission is forwarded to the Commandant of the MC for final approval prior to submission to SECNAV.

All MC IT program requests are centrally managed by Commander, Marine Corps Systems Command (COMMARCORSYSCOM), as directed in policy from the Assistant Chief of Staff (AC/S), Command, Control, Communications, Computers and Intelligence (C4I). Each IT investment funding request is prioritized on its own merit and benefit to the Marine Corps and, as is the case with all other investments, forwarded to the PRG by the PWG and to the Assistant Commandant of the Marine Corps ESC for endorsement to the Commandant.

At the conclusion of the Navy and MC programming cycles, TAB G which is the IT extract of the POM, is prepared by both the Navy and MC and is forwarded to Office of the Under-Secretary of Defense (OUSD) (Comptroller)(Program Analysis & Evaluation (PA&E)) by the DON Program Information Center (DONPIC). TAB G is the approved IT investment portfolio for both the Navy and MC and reflects the IT investment decisions resulting from the DON assessment and Navy and MC POM development processes.

4) DON Budgeting

In the DON, preparation of budget estimates begins after completion of Navy and MC POM development and submission to OSD. For the DON, the budget cycle consists of four phases. The first is submission of

budget estimates by budget submitting offices (BSOs) to the Comptroller of the Navy (NAVCOMPT). The transformation of program estimates into budget quality estimates occurs in the budget submission to NAVCOMPT and the subsequent DON budget review. This internal DON budget review is conducted during the OUSD (C)(PA&E) program review of the Services' POM submissions. Changes to the program as promulgated by Program Decision Memorandum (PDM) from OSD are incorporated into the budget during the DON review. Whereas Navy and MC POM development focuses on affordability, policy implementation and program levels, the internal DON budget review focuses on whether programs are properly priced, properly balanced and executable. During this phase of the budget process, IT investments are likewise reviewed internally for proper pricing, balancing and executability.

The second, third and final phases of the budget process are, respectively, the submission of budget estimates to OSD and OMB (i.e., OSD/OMB submission) for review and final approval by the Secretary of Defense and the President; the submission of budget estimates from the President to Congress (i.e., President's budget submission) for Congress' review and approval; and the enactment of appropriations and execution of those appropriations by the DON.

The IT budget exhibits submitted to higher authority with the Department's budget submission during each successive phase of the budget process reflects the DON IT investment portfolio approved by the preceding phase's budget reviewing authority. Justification for each of the major IT investments is documented in Exhibit 300B in accordance with guidance contained in OMB Circular A-11, Part III.

3. CAPITAL PLANNING: "MANAGEMENT" PHASE

a) Overview

Achieving maximum benefits from a project while minimizing risks requires that the project be periodically and consistently monitored and managed for successful results. During the management phase of the capital planning process, acquisition management officials are actively engaged in monitoring all of the projects in the investment portfolio; making decisions and taking actions to change the course of a project when necessary; and, providing feedback to PPBS decision-makers (i.e., into the selection process), if applicable, for purposes of reflecting the appropriate changes in the funding availability/profile for a particular investment.

The management phase is characterized by decisions to continue, modify or terminate a program which are based on reviews at key milestones during the program's life cycle. The focus of these reviews change and expand as the investments move from initial concept or design and pilot through full implementation and as projected investment costs and benefits change. The reviews do not focus exclusively on cost and schedule concerns but also on ensuring that projected benefits are being realized, that risks are being minimized and managed, and that the project continues to meet strategic needs.

Whereas IT investment funding decisions made annually during the selection phase tend to occur only during the PPBS "windows" established for that purpose, information in the management phase is continuously collected, updated and fed to Departmental decision-makers. Management phase data consist of such items as comparisons of actual results achieved versus projections and assessment of actual benefits from project pilots or prototypes. Cost, benefit, schedule and risk information that was included in the business case, including the various analyses that were done to justify the investment, are updated as project implementation continues. Updates include any revisions to the justification necessitated by adding functional requirements.

As each project is reviewed at various stages during its life-cycle, decisions are made regarding the future of the project. These decisions are unique for each project and are based on the merits of the particular program. Decisions may be made which call for the suspension of funding or make future funding releases conditional on corrective actions being taken. These situations are communicated to appropriate DON PPBS decision-makers for implementation during POM or budget development or budget execution.

A discussion of the DoD/DON acquisition process, as it relates to the life-cycle management of IT programs, follows.

b) DON Acquisition Process for IT Investments

The existing, institutionalized acquisition program management process is the process used by the DON to manage IT investments throughout their life cycles. The DON acquisition process for IT investments is defined in DoD Regulation 5000.2-R, "Mandatory Procedures for Major Defense Acquisition Programs (MDAPs) and Major Automated Information System (MAIS) Acquisition Programs", and by SECNAVINST 5000.2B, "Implementation of Mandatory Procedures for Major and Non-major MDAPs and Major and Non-

major IT Acquisition Programs". *In addition, during the acquisition process, all DON IT acquisition programs are routinely and periodically evaluated against the OMB decision criteria contained in OMB Memorandum M-97-02 (i.e., Raines Rules; see Appendix K) to ensure the continued viability of the program.*

The following chart (Figure 4-3) depicts the phases and milestones, which comprise the DON acquisition process:

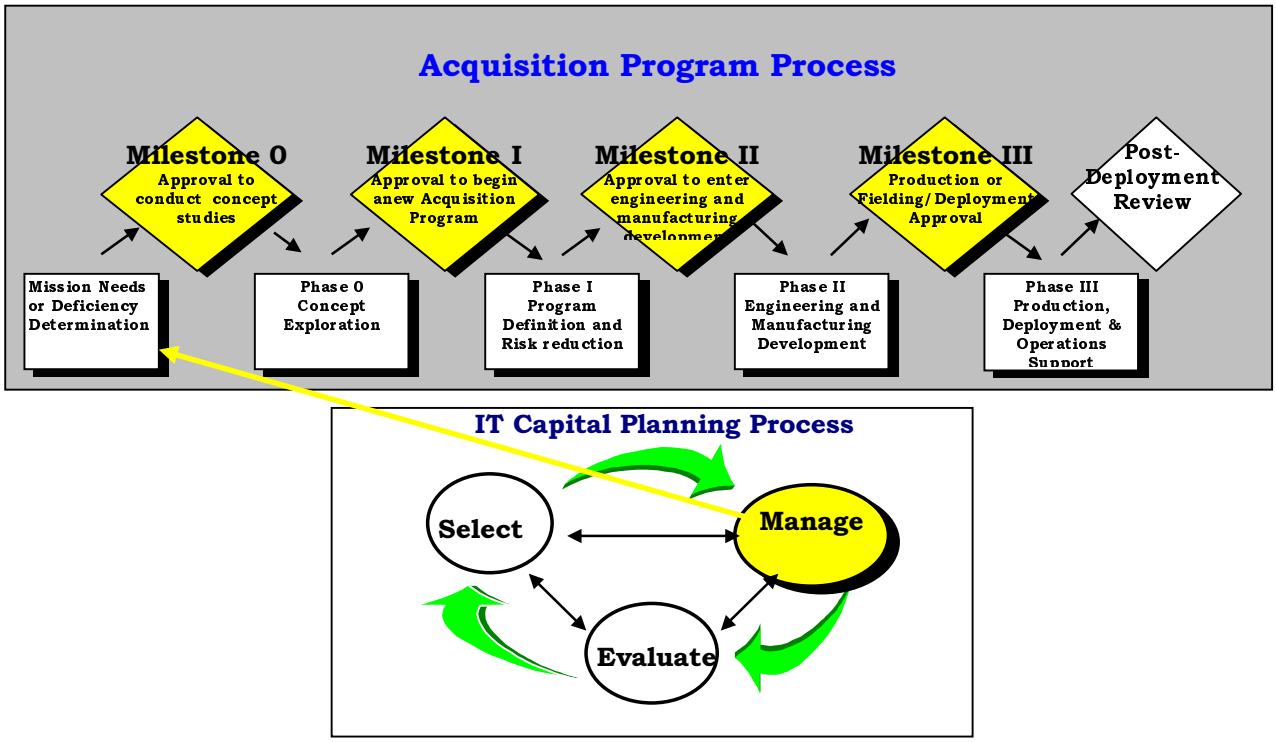


Figure 4-3

Both DoD Regulation 5000.2-R and SECNAVINST 5000.2B establish a general model for managing MDAPs and MAISs but do not require that the entire process described therein be followed for each program. The model has been designed to allow flexibility in management in recognition of individual differences in major acquisition programs, provided fundamental tenets (e.g., minimize risk, maximize affordability) are observed. Similarly, program managers (PMs) and milestone decision authorities (MDAs) for non-major acquisition programs are expected to adhere to the process described in 5000.2-R and 5000.2B but may tailor the process, as appropriate, to match the characteristics of the non-major programs.

At IT program initiation, the appropriate milestones, level of decision and appropriate documentation for each milestone is approved by the MDA based on recommendations by the PM. The size, complexity and risk of the IT program are considered in arriving at these decisions. At initiation, the size

and complexity of the IT program are used to determine the "category" of program acquisition, as follows:

1) Acquisition Categories

- Acquisition Category (ACAT) IA: All MAISs are ACAT IA programs. A MAIS has estimated annual or total program costs in excess of $30 million or $120 million, respectively, or total life-cycle (program and operational) costs in excess of $360 million (expressed in constant FY96 dollars). ACAT IA programs are further sub-divided as follows:

  - ACAT IAM: MDA is the DoD CIO; acquisition is subject to Major Automated Information Systems Review Council (MAISRC) oversight.

  - ACAT IAC: MDA is the Component Acquisition Official which for DON is the ASN (RD&A).

  The ASD (C3I) designates IT programs as ACATs IAM or IAC.

- ACAT II: While no IT program is designated as an ACAT II program, there are NSS (as defined in Section 5141 of the Clinger-Cohen Act) which meet the thresholds for ACAT II outlined in DoD Regulation 5000.2-R. .

- ACAT III: ACAT III programs are those IT programs which do not meet ACAT IA thresholds and which have estimated program costs in any single year equal to or greater than $15 million or total program costs of at least $30 million (FY96 constant dollars), or those NSS which do not meet the ACAT II thresholds. MDAs for ACAT III IT programs are Program Executive Officers (PEOs), Systems Command (SYSCOM) Commanders or Direct Reporting Program Managers (DRPMs), or ASN (RD&A) for ACAT III IT programs not otherwise assigned.

- ACAT IV: ACAT IV programs are those IT programs or NSS which are not otherwise designated as ACATs IA, II or III and which require "operational test and evaluation (OT&E)". All ACAT IV IT programs are designated ACAT IV*T* which indicates that OT&E is required. MDAs for ACAT IV IT programs are PEOs, SYSCOM Commanders and DRPMs, or ASN (RD&A).

- Abbreviated Acquisition Programs: Any IT acquisition or modification below the ACAT III threshold which does not require OT&E is normally designated as an "abbreviated" IT acquisition program. The MDA determines the documentation and approval requirements for an abbreviated acquisition program.

In the DON, an MDA conducts milestone reviews for all IT acquisition programs. For designated ACAT IAM programs (i.e., those under ASD (C3I) MDA approval authority and subject to MAISRC), DON program managers brief ASN (RD&A) to coordinate a DON position and prepare ASN (RD&A) for the OSD milestone reviews. The Program Decision Meeting (PDM) process is used to conduct the program briefing. It is done concurrently with the OSD overarching integrated product team (OIPT) to prepare the program for presentation to the OSD MDA.

DON ACAT IAC programs each have an established acquisition coordination team (ACT) co-chaired by the applicable DASN and PM. ACTs are not required for ACAT IAM programs since the OSD OIPT performs a similar role for those programs. Likewise, ACTs for ACATs III and IV programs are not required but are encouraged. An ACT is a team of stakeholders from the acquisition, requirements generation, test and evaluation, and PPBS communities who represent the principal advisors to the MDA. For ACAT IAC programs, the PDM is the ASN (RD&A) milestone review forum. Programmatic issues and status of the program are fully addressed and presented at the milestone review via a program decision brief (PDB). The PDB documents the status of the program at a specific time and is part of the official program decision record. The topics to be examined in preparation for a PDM and potentially discussed during a PDB are specified in SECNAVINST 5420.188E and include the OMB decision criteria for funding IT investments (OMB Memorandum M-97-02, "Funding Information Systems Investments").

The DON CIO participates on the ACTs for ACAT IAC programs and serves as one of the program decision principal advisors (PDPAs) to ASN (RD&A) for all ACAT IA programs. In those capacities, the DON CIO attends all major IT acquisition program briefings and milestone reviews. It is through the ACT and in the role of PDPA that the DON CIO exercises his/her responsibility under Section 1 of Executive Order 13011. This responsibility includes monitoring and evaluating major IT programs based on performance measurements and recommending the continuation, modification or termination of those programs based on the reviews.

For each IT program, the acquisition process is structured in "phases" separated by major decision points called "milestones". The MDA establishes tailored milestone decision points for each IT acquisition program as early as possible in the program life-cycle based on the size and complexity of the program and recommendations by the program manager (PM). There is no set number of milestones that an acquisition program must have. For example, it is conceivable that a commercial off-the-shelf (COTS) acquisition strategy could have a combined Milestone I/II/III decision. However, there are certain core activities, which are reviewed by the MDA during the milestone reviews such as:

- Need validation;
- Requirements generation;
- Alternative solutions;
- Acquisition strategy and baseline;
- Affordability;
- Life-cycle cost and funding requirements
- Risk management;
- Producibility;
- Supportability;
- Environmental compliance;
- Operational effectiveness and suitability prior to production or deployment

Also addressed by the PM and examined by the MDA during the various milestone decisions points are IT investment decision criteria published by OMB (OMB Memorandum M-97-02, "Funding Information Systems Investments"). For example, criteria examined at Milestone 0 include whether the IT investment supports "core" DoD functions/missions; whether it is an inherently governmental function or should be considered for outsourcing; and whether work processes have been redesigned to reduce costs and improve performance of the business area as a prerequisite for investment in IT. Appendix H contains OSD guidance, which shows when the OMB decision criteria are applied during the milestone reviews.

2) Phases/Milestones

The various phases and associated milestone decision points are as follows:

- Mission Needs/Deficiency Determination-- All IT acquisition programs are based on identified, documented and validated mission needs. Mission needs result from on-going assessments of current and projected capability. Mission needs may seek to

establish a new operational capability, improve an existing capability or exploit an opportunity to reduce costs or enhance performance. In the DON, if the assessment results in the need for a new IT investment, the appropriate IT functional area proponent reviews the document to validate the need, coordinate with the OSD Principal Staff Assistants or Joint Requirements Oversight Council (JROC) to assess potential for joint application and determine that the requirements of DoD Directive 8000.1 are met.

⇒ **Milestone 0: Approval to Conduct Concept Studies-- Following validation of the mission need for the IT program, the MDA reviews the documentation to authorize concept studies, if they are deemed necessary. For ACAT IA programs, ASD (C3I) convenes a MAISRC. A favorable Milestone 0 decision does not mean that a new IT acquisition program has been initiated; only that approval to proceed to concept studies (i.e., Phase 0) has been granted.**

- Phase 0: Concept Exploration-- Phase 0 typically consists of competitive, parallel short-term concept studies. The focus of these efforts is to define and evaluate the feasibility of alternative concepts and to provide a basis for assessing the relative merits of these concepts at the next milestone decision point.

⇒ **Milestone I: Approval to Begin A New IT Acquisition Program-- The purpose of the Milestone I decision point is to determine if the results of Phase 0 warrant establishing a new IT acquisition program and to approve entry into Phase 1, Program Definition and Risk Reduction. At Milestone I, the MDA approves the following :**

- **Acquisition strategy**
- **Cost as an Independent Variable (CAIV) objectives**
- **Acquisition Program Baseline (APB)**
- **Phase I exit criteria**

- Phase I: Program Definition and Risk Reduction-- During this phase, the program is defined as one or more concepts and design approaches. Parallel technologies are pursued as warranted. Assessments of the advantages and disadvantages of alternative concepts are refined. Prototyping, demonstrations, and early operational assessments are considered and included as necessary to reduce risk so that technology, manufacturing and support risks are well in hand before the next decision point.

⇒ **Milestone II: Approval to Enter Engineering and Manufacturing Development-- The purpose of the Milestone II decision point is to determine if the results of Phase I warrant continuation of the program and to approve entry into the Engineering and Manufacturing Development (i.e., software engineering and development). At this milestone, the MDA approves the following:**

- **Acquisition strategy**
- **CAIV objectives**
- **APB**
- **Phase II exit criteria**

- Phase II: Engineering and Manufacturing Development-- The primary objectives of this phase are to translate the most promising design approach into a stable, interoperable, producible, supportable and cost-effective design; validate the manufacturing or production process; and demonstrate system capabilities through testing. Non-IT programs may be authorized low rate initial production (LRIP). LRIP is not applicable to IT programs but a limited deployment phase may be authorized.

⇒ **Milestone III: Production or Fielding/Deployment Approval-- The purpose of this decision point is to authorize entrance into deployment for an IT acquisition program. At this milestone, the MDA approves the following:**

- **Acquisition strategy**
- **APB**
- **Phase III exit criteria, if appropriate**

- Phase III: Production, Fielding/Deployment, and Operational Support-- The objectives of this phase are to achieve an operational capability that satisfies mission needs. Deficiencies encountered in Developmental Test and Evaluation (DT&E) and Initial Operational Test and Evaluation (IOT&E) are resolved and fixes verified. The production requirement of this phase does not apply to IT acquisition programs or software-intensive systems with no developmental hardware components. During fielding/deployment and throughout operational support, the potential for modifications to the fielded/deployed system continues. Any modification that is of sufficient cost and complexity that it could itself qualify as an IT

acquisition program is considered, for management purposes, to be a separate acquisition program.

3. CAPITAL PLANNING: "EVALUATION" PHASE

a) Overview

The evaluation phase takes place after the project is delivered to the user and is operational. It "closes the loop" on the IT investment management process by comparing post-deployment actuals against estimates in order to assess performance and identify areas where future decision-making can be improved. Lessons learned during the evaluation phase are geared towards implementing future process improvements. Central to this process is the post-deployment review (PDR) with its evaluation of the historical record of the project. Once a project has reached a final end point (e.g., the project is fully implemented or the project has been canceled), a post-deployment review (or post-investment review) is conducted. This review usually occurs about 3 to 12 months after a project is fully operational and is conducted by a group other than the project development team to ensure that it is conducted independently and objectively.

The information gained from PDRs is critical for improving how the organization selects, manages, and uses its IT resources. Each PDR has a dual focus: (1) It provides an assessment of the implemented project, including an evaluation of the development process, and (2) It indicates the extent to which the Department's investment decision-making processes sustain or improve the success rate of IT projects. The following are three essential areas that are evaluated as part of a complete PDR:

- Customer surveys are conducted to determine users' satisfaction with the end product. There is also a focused look at how well the project supports specific business processes. Many of the intangible benefits that were identified at the outset will relate to how customers and end users feel about the final project.

- A close look is taken to determine whether the implemented system has achieved its intended impact, based on the baseline review made prior to invitation of the project, and whether this impact is still aligned with mission goals. An assessment is also made of other project-specific aspects, such as an estimate of cost savings that have been achieved, compliance with the Information Technology architecture, evaluations of the information product (accuracy,

timeliness, adequacy, and appropriateness of information), and identification of additional maintenance or security issues.

- Finally, an evaluation is made of the technical aspects of the project, both current and future. This evaluation may focus on such factors as the competency of the workforce to use the new system and employee satisfaction or retention, the extent to which advanced technology was used, and the methodological expertise of the development team.

Information gathered during the evaluation phase is aggregated and fed back to management decision-makers, (i.e., MDA and Program Manager).. The primary focus of the PDR is on evaluating a project's actual results compared to estimates generated during the various phases and milestone reviews of acquisition process (i.e., management phase) in terms of cost, schedule, performance, and mission improvement outcomes for the primary purpose of determining the causes of major differences between planned and end results. A secondary objective of the PDR is to identify any inappropriate systems development and/or program management practices and management phase approval criteria which need to be modified to ensure future IT program success.

In that regard, the PDR should provide a wide range of information regarding both the project and the process for developing and implementing the project. Specific information includes the following:

- An assessment of the project's effectiveness in meeting the original objectives.

- An identification of benefits that have been achieved, an assessment of whether they match projected benefits, and a determination of reasons for any discrepancies.

- An evaluation of whether original business assumptions used to justify the project were valid.

- A comparison of actual costs incurred against projected costs.

- A determination of how well the project met time schedules and implementation dates.

- Management and user perspectives on the project.

- An evaluation of issues that still require attention.

Outputs of the PDR include user evaluations of the effectiveness of the project, actual costs, measurements used to calculate benefits, a comparison matrix of actuals to estimates, and documentation of business improvement assumptions used to justify the project. A number of key decisions are made during the evaluation phase, including an assessment of how well the project met its intended objectives, a determination of what changes or modifications to the project are still needed, and if warranted, an identification of ways to modify or improve the overall investment management process to better maximize results and minimize risks. The results and recommendations that arise out of the PDRs combined with other project information are a critical input for senior decision-makers to use to assess the project's impact on mission performance.

The capital planning process will not remain static but will evolve and change over time as the Department learns more about what has been successful and what still needs to be improved. Potential modifications that may be made to the process include the following:

- Changing the management phase milestone decision criteria used for monitoring the progress of projects.

- Modifying the timeframes for reviewing projects during the management phase.

- Modifying the PDR methodology.

The results from one project will not provide enough information to allow significant modification to be made to the agency's IT decision-making processes. However, a significant, recurring system development problem found across multiple projects over time is cause for refining or even significantly revising the decision-making processes and criteria.

b) DON Post-deployment Review (PDR) Process

The evaluation phase, depicted in the figure below, occurs within 12 months following attainment of FOC (i.e., full deployment; following completion of Phase III) or upon failure/cancellation of an IT acquisition program. It involves the post-deployment evaluation of actual versus expected performance/results of the program by an independent party. Figure 4-4 depicts the "Evaluation Phase" of Capital Planning Process.

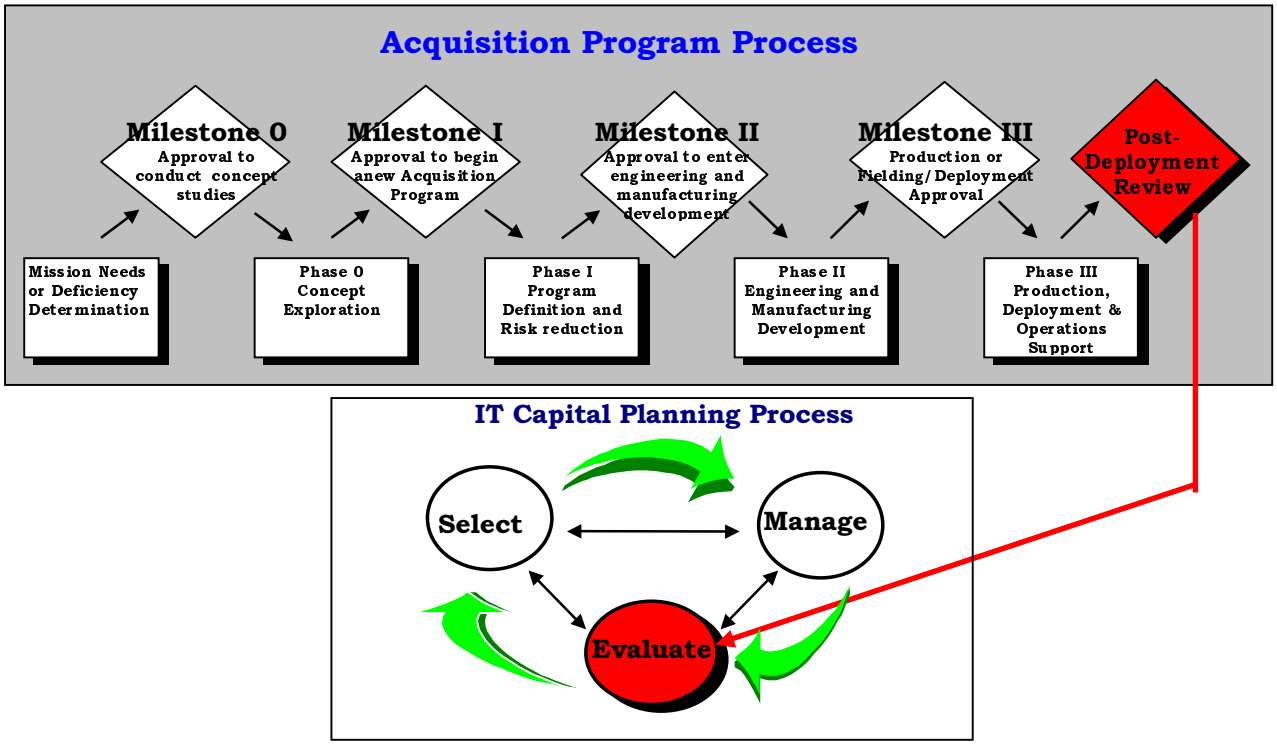


Figure 4-4

Within the DON, the MDA initiates a request to the Deputy Assistant Secretary of the Navy (DASN) (C4I/EW/Space) for a post-deployment review (PDR) (ACAT IAC and ACAT II NSS only) upon notification by the PM that FOC has been achieved or, alternately, upon cancellation of a program at any milestone decision point. The DASN (C4I/EW/Space) will request the Navy Audit Service (NAVAUDSVC) to schedule the PDR within their planning cycle. Results of ACAT 1AC and the ACAT II NSS PDRs by the NAVAUDSVC, together with recommendations are forwarded to the DASN (C4I) for consideration and implementation as appropriate, with copies to the cognizant PM, MDA and the DON CIO.

Factors examined by the NAVAUDSVC during the PDR include the following:

- *Expected versus actual acquisition (i.e., program and operational) costs.*
- *Expected versus actual savings or cost avoidances, if applicable, resulting from the investment.*
- *Performance measures, including:*
  - *Pre-investment performance measures*

- *Expected post-investment performance measures*
- *Actual post-investment performance measures*

- *Customer satisfaction with the deployed system.*

- *Degree to which operational requirements/mission needs have been met.*

- *Actual versus expected implementation schedule.*

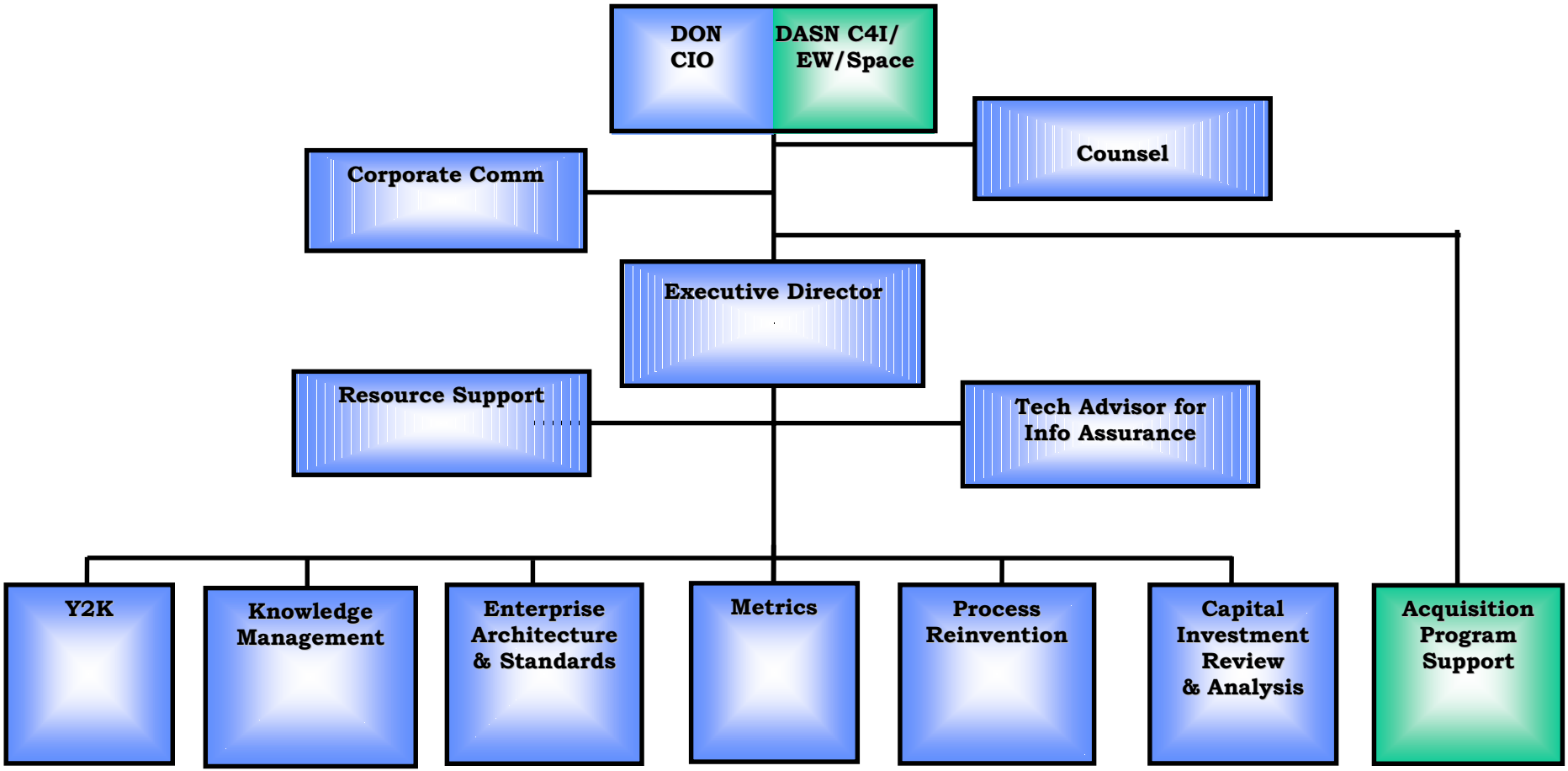
- *Compliance with technical, operational and system architectures and standards.*

A joint MDA and customer evaluation team following the same process used by the NAVAUDSVC will conduct ACAT III and ACAT IV PDRs.

Finally, following full implementation or achievement of full operational capability (FOC), there may be a need to examine, on an exception basis, the continued "utility" of the fully operational system during the system's life-cycle. The review of a fully operational system should occur whenever there is an indication that the needs of the customer are no longer being met. In such cases, a "Mission Needs" statement will be prepared in accordance with SECNAVINST 5000.2B and submitted to the appropriate IT Functional Area point of contact who shall review the documented need, coordinate with principal staff assistants for joint potential, and confirm that the requirements defined in DOD Directive 8000.1 have been met. *Any review of a fully operational system that no longer meets customer requirements should also include an assessment as to whether business process reengineering (BPR) should be conducted prior to any further investment.*

Appendix A

DON CIO Organization



Points of Contact

NAME	Phone No.	Organization	Competency
Front Office			
MILLER, ANN, DR	602-2103	DON CIO	DON CIO/DASN (C4I)
WALLICK, VALERIE	602-6278	DON CIO	Executive Director
VACANT	602-6901	DON CIO	Chief of Staff
RABINKOFF, PENNY	602-2105	DON CIO	DON CIO Counsel
LOVING, ELIOUT, YN2	602-6202	DASN C4I	Assistant
GOLDBERG, MICHAEL, YN3	602-2103	DON CIO	Executive Assistant
Capital Investment Review & Analysis			
BOLTER, CARL	602-6308	DON CIO	Capital Investment & Analysis
BAKER-BRENT, BRIAN	602-6544	DON CIO	Capital Investment & Analysis
SERIO, VINCE	602-6310	DON CIO	Capital Investment & Analysis
WAGNER, BOB	602-6307	DON CIO	Capital Investment & Analysis
Corporate Communications			
RAINES, ERVIN	607-5604	DON CIO	Corporate Comm
BARTH, CHARLEY	602-6526	DON CIO	Corporate Comm
TURNER, RON	602-2975	DON CIO	Corporate Comm

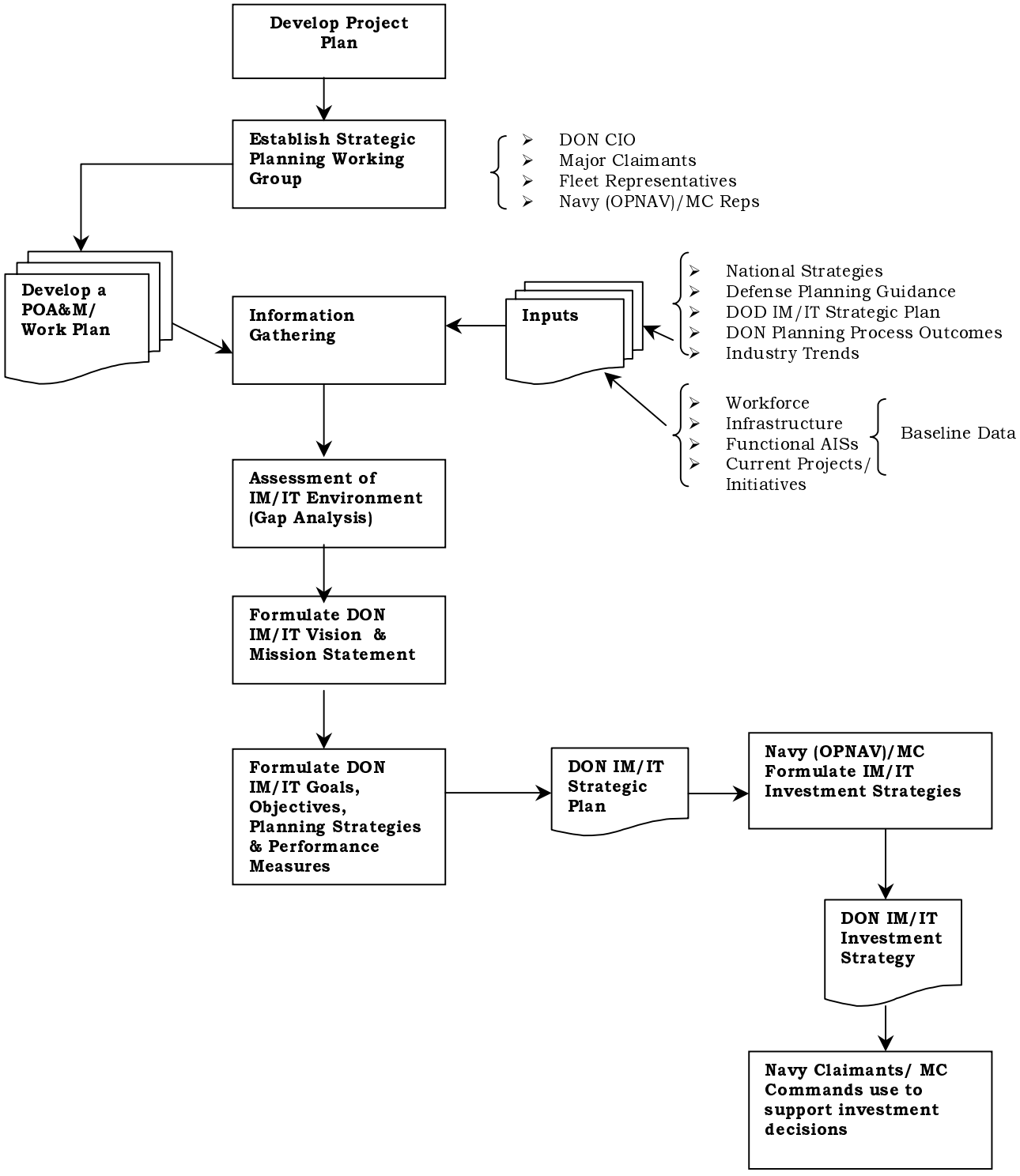
NAME	Phone No.	Organization	Competency
Enterprise Arch. & Standards			
CAREY, STEVE	607-5651	DON CIO	Enterprise Arch. & Standards
CHRISTENSEN, DALE	602-6800	DON CIO	Enterprise Arch. & Standards
GREEN, BOB	602-6812	DON CIO	Enterprise Arch. & Standards
WILCZYNSKI, BRIAN	607-5653	DON CIO	Enterprise Arch. & Standards
LYNCH, RICHARD	602-6419	DON CIO	Enterprise Arch. & Standards
Metrics			
SCHMITZ, EDWARD. J	602-3174	DON CIO	Metrics
DAY, CARL	602-6921	DON CIO	Metrics
ELWELL, DANIEL	602-6545	DON CIO	Metrics
JONES, BRENDA. J	602-6847	DON CIO	Metrics
DANIS, KAREN	602-6729	DON CIO	Metrics
Resource Support			
HIDALGO, LINDA	602-6393	DON CIO	Resource Support
ARNWINE, PATRICIA	602-6765	DON CIO	Resource Support
LATHERN, MARJORIE	602-6722	DON CIO	Resource Support
NAIR, INDIRA	602-6727	DON CIO	Resource Support
TODD, JOHN, SK2	602-6933	DON CIO	Resource Support
Knowledge Mgmt.			
GATES, PATSY	602-6705	DON CIO	Knowledge Mgmt.

NAME	Phone No.	Organization	Competency
LEWIS, JOENEICY	602-6274	DON CIO	Knowledge Mgmt.
GROCE, FLOYD,V	607-5658	DON CIO	Knowledge Mgmt.
Process Reinvention			
KIM, HUN	602-3175	DON CIO	Process Reinvention
JONES, PENNY	602-6728	DON CIO	Process Reinvention
McCARTHY, JUDY	602-6845	DON CIO	Process Reinvention
Y2K Team			
DEAN, MAHNAZ	602-6280	DON CIO	Y2K Team
ELSER, ERIC, LCDR	602-6759	DON CIO	Y2K Team
GAUDREAU, LYNNE CDR.	602-6068	DON CIO	Y2K Team
MINOGUE, MIKE	602-6110	DON CIO	Y2K Team
SZAFRAN, CLIFF, CAPT	602-6882	DON CIO	Y2K Team
DASN (C4I/EW/SPACE)			
BROWN, NORM	602-6152	DASN C4I	Software Prgm Mgr. Network
BURSON, JOHN	602-6704	DASN C4I	Acquisition
COALWELL, RICK, LTC	602-6546	DASN C4I	Acquisition
DONICH, PETE	602-6707	DASN C4I	Acquisition
DORSEY, MIKE	607-5668	DASN C4I	Acquisition
ENGELBERT, MARY ANN	602-6547	DASN C4I	Acquisition
JONES, HUNTER	602-6902	DASN C4I	Acquisition

NAME	Phone No.	Organization	Competency
KREUTNER, STEVE, CAPT	602-2873	DASN C4I	Acquisition
LOCHNER, JANE, LCDR	602-6887	DASN C4I	Acquisition
LARSEN, BRUCE MAJ	602-6767	DASN C4I	Acquisition
O'CONNELL, JOHN, CAPT	602-6723	DASN C4I	Acquisition
OLIVER, MARION	602-6799	DASN C4I	Acquisition
PATE, JEAN, 602-2104	602-6846	DASN C4I	Acquisition
PETER, MIKE	602-6706	DASN C4I	Acquisition
PHAN, GIAO ("Yow Fan")	602-6883	DASN C4I	Acquisition
PHILLIPS, MARK, CDR	602-6720	DASN C4I	Acquisition
SHAW, BRIAN	602-6813	DASN C4I	Acquisition
SMITH, GEORGE	602-6350	DASN C4I	Acquisition
VETTER, STEVE, CDR	602-6906	DASN C4I	Acquisition

Appendix B

IM/IT Strategic Planning Process



Appendix C

DoD Business Process Reengineering Model --Version 3.0

The Department of Defense (DoD) develops and maintains a process model that describes the activities involved in business process reengineering. This appendix describes the most recent version of the model.

DoD Context for Business Process Reengineering

DoD business process reengineering comprises a set of activities designed to improve the performance of DoD functional activities. BPR does not exist in isolation, but rather is part of a broader context that includes other DoD management activities.

The higher-level activity within which BPR resides is described as "Optimize DoD Functions." In this activity, DoD managers identify, develop, and manage the implementation of improved, integrated functional activities that achieve strategic objectives and customer-based performance measures at reduced cost.

It should be noted that this activity does not include the actual doing or carrying out of DoD functions. Rather, it involves developing both better ways of accomplishing DoD's functions and the plans essential to putting those better ways of doing business into effect.

"Optimize DoD Functions" includes the following sub-activities:

- Perform strategic planning
- Develop programs and budgets
- Perform enterprise integration
- Engineer functions
- Manage change
- Evaluate performance.

"Engineer functions" and "manage change" are the two sub-activities that constitute BPR.

The following sections describe each of the sub-activities in detail.

Perform Strategic Planning

In performing strategic planning, the senior functional manager uses the organization's assigned or derived mission as the basis for developing a vision, goals, and performance targets for the organization, along with the strategies required to achieve those goals and targets. The manager also takes action to ensure that the strategic plan is compatible with and supportive of other strategic plans, and that the plan has the commitment and support of the individuals and organizations essential to its successful implementation.

Key elements of the strategic plan are as follows:

- **Vision.** The vision is a description of a future state or outcome that will exist when the plan is fully implemented. The vision describes the state or outcome for all the functional areas included in a given mission. It also provides sufficient description of higher-level or related functional areas to provide the guidance and context for the mission to which the strategic plan pertains. The typical strategic plan contains a single vision statement that might include a number of descriptive statements addressing various aspects of the future state.

- **Goals.** Goals are further refinements to the vision. Goals usually are not stated in terms of actions to be taken, but can be easily related to actions that will create a transition from the current state to the vision.

- **Performance targets.** Performance targets provide a means of quantifying the vision and goals and, more importantly, of measuring actual accomplishments. A performance target comprises three elements. The first is a performance indicator, which is the metric or unit of measure used to gauge progress toward the goal. The second element is a target, which is the specific value or quantity of the performance indicator. The final element is the time by which the target is to be achieved.

- **Strategies.** Strategies are the actions or approaches that can be taken in order to achieve the prescribed performance targets. Strategies provide the direct, critical linkage between strategic planning and business process reengineering. A business process reengineering project is undertaken in order to develop and analyze a specific strategy.

Develop Programs and Budgets

Developing programs and budgets includes all activities associated with the development, review, and approval of program objective memorandums and budget estimates. This activity is essential for obtaining the manpower and dollar resources required to perform BPR and to implement approved new processes.

Perform Enterprise Integration

Enterprise Integration (EI) comprises those activities aimed at coordinating the DoD enterprise through the design and management of processes, data, and systems. EI involves the following activities.

- Analyze integration opportunities and develop integration alternatives. The Defense Information Systems Agency (DISA) and functional managers, after assessing cross-functional problems, issues, and opportunities, identify alternatives to address them. Functional managers have primary responsibility for identifying functional alternatives, and DISA has primary responsibility for identifying technical alternatives. In this initial step in EI, DISA develops specific actions for review by the Corporate Functional Integration Board (CFIB).

- Approve EI direction. The CFIB develops these proposed alternatives into recommendations for consideration by the EI Executive Board and EI Corporate Management Council. The board and council consider these recommendations and issue guidance and direction that apply to all of DoD.

- Facilitate and support EI activities. After the EI Executive Board and EI Corporate Management Council issue guidance and direction, DISA supports and facilitates enterprise integration by
  1. assisting functional and technical communities with cross-functional proofs of concept and prototypes;
  2. providing support required to ensure that activities are engineered with an appropriate cross-functional view, are related to functional architectures, and are consistent with EI guidance;
  3. providing systems migration strategies and assisting in the development and implementation of migration plans;
  4. developing methodology and tools to support EI activities;

5. developing performance measure criteria and tracking systems for EI actions; and
6. tracking overall EI progress and developing additional support systems based on EI results.

Business Process Reengineering

BPR can be viewed as a two-phased activity. The first phase is engineering, that is, designing or redesigning a functional area or activity to achieve the requirements in the strategic plan. The second is change management, which entails developing strategies and detailed plans to bring about approved changes within an organization.

While these two phases must be closely linked with one another, there are also important differences. One of them involves who has primary responsibility during each phase. In the engineering phase, functional experts who are representatives of the senior functional manager play the lead role. The individual responsible for the engineering activity is referred to as the "process owner," who is supported by a team of functional experts and other subject matter experts as required. In the change management phase, individuals from the organizations that will receive and implement the reengineered process take the lead.

In the model, these two phases are titled "Engineer Functions" and "Manage Change."

Engineer Functions

"Engineer Functions" includes the following activities:

- Perform business improvement analysis. In this activity, the process owner and team assess existing business processes to identify opportunities for improvement, as driven by requirements in strategic plans. The assessment is used to develop alternative business processes. Techniques used include modeling AS-IS and TO-BE business processes and associated rules, brainstorming and other collaborative approaches, and benchmarking.

- Develop milestone plan and Functional Economic Analysis (FEA) document. The process owner and team analyze the alternatives based on functional, economic, technical, political, and feasibility criteria. They select an alternative and develop an FEA document

and action plan to support follow-on processes. The process owner presents the recommended alternative to the senior functional manager for approval. As part of the approval process, existing alternatives may be modified or new alternatives developed, based on management assessments of feasibility. The decision authority approves an alternative, as embodied in the FEA document and its milestone plan.

- Determine functional guidance and tools. In this activity, requirements to support the approved alternative are identified. These requirements will often include automated information system support and may also include such requirements as new or modified facilities, training materials for new operational procedures, and revised policy and procedure documents.

Manage Change

"Manage Change" consists of the following activities:

- Develop change strategies. Based on a comprehensive understanding of organizational characteristics and capabilities, managers in the receiving organization analyze the milestone plan to identify potential barriers to change and develop approaches for overcoming the barriers. This includes assessing organizational culture, identifying technical and non-technical barriers, and identifying resources needed.

This activity produces change management plans and impact statements. Change management plans adapt the approved milestone plan to the organizational environment by incorporating strategies to deal with the barriers to change that have been identified in a given situation. Impact statements identify possible major impacts that will result from implementing changes, problems that cannot be overcome, and barriers that cannot be dealt with. An impact statement can alert the manager to a possible requirement to reconsider some element of the milestone plan.

- Build project management plan. In this activity, managers use the change management plans to convert the milestone plan into a detailed project management plan that identifies specific tasks, responsibilities, schedules, milestones, resources, etc. This activity produces a fully coordinated plan. The project management plan is incremental and dynamic. It is incremental

in the sense that it comprises actions in a number of areas that, while related to one another, can be developed, coordinated, and negotiated as individual modules. Its dynamic nature reflects the fact that it can and will be changed during implementation in response to actual events.

- Negotiate support for change. In this activity, managers coordinate with individuals and organizations whose active efforts or cooperation will be required for the plan to succeed. The outputs of this activity are concurrence from each of these individuals or organizations on the portion of the plan that involves them, representing the support and buy-in essential to success.

- Promote change. In this activity, managers work to further the adoption of the changes associated with the reengineered process. This may include removing implementation barriers, marketing or creating acceptance for the desired change, or taking other actions to create acceptance of the change by all appropriate organizations and individuals.

Evaluate Performance

When they evaluate performance, managers compare actual to planned achievement, identify the reasons for variance, and identify appropriate corrective actions. Performance evaluation is applied to both the initiatives taken to improve a functional area and to the actual operation or performance of the functional area.

- Initiatives. Evaluating initiatives involves determining whether the milestones in the project management plan are on track and, if not, determining the reason and appropriate corrective actions. Corrective actions can include modifications to the plan or a reassessment of the strategies.

- Performance. The evaluation of actual performance of the functional activity, measured against the performance targets established in the strategic plan, is the bottom line for the reengineering effort.

This document can be found at http://www.dtic.mil/dodim/bprll_12.html.

Appendix D

Selection Phase IT Investment Funding Criteria

Minimum Criteria for IT Investment Funding Approval

The following criteria are the minimum criteria, which must be examined in making IT investment (i.e., Dev/Mod) funding decisions:

- Savings/Cost Avoidances[2]: Annual review of a particular IT investment will examine planned savings or cost avoidances. Subsequent annual reviews should examine the degree to which actual savings/cost avoidances were achieved as planned as one criterion for continued funding. Savings/cost avoidances should be identified by fiscal year and as a total for the life-cycle of the program.

  - Savings: Reduction in budgeted costs resulting from the IT development or modernization effort. Any savings recouped from TOA should be documented for future reference.

  - Cost Avoidances: Reduction in unbudgeted costs resulting from the IT development or modernization effort. Although adjustment to TOA is inappropriate in these cases, cost avoidances can be a valid basis for undertaking an investment.

- Return-on-Investment (ROI)/Net Present Value (NPV): ROI and NPV computations facilitate the prioritization of multiple investment alternatives.

  - ROI: Defined as discounted life-cycle benefits (i.e., savings or cost avoidances stream over the life-cycle), divided by discounted life-cycle costs. Investments must have an ROI greater than "1.0" to be considered for funding. Note that in

[2] It is recognized that not all IT investments will result in savings or cost avoidances. Similarly, not all investments will result in performance improvements. However, it is expected that all investments will produce either savings/cost avoidances *or* performance improvements and that, as a minimum, one of the two is required for funding approval.

instances where competing investments have similar or identical NPVs (defined below), ROI may be used to identify the investment with the largest *relative* benefit.

- NPV: Defined as discounted life-cycle benefits, less discounted life-cycle costs. Investments must have a positive result to be considered for funding. Note that in instances where competing investments have similar or identical ROIs, NPV may be used to identify the investment with the largest *net* benefit.

- Performance Measures[1]: Required for all investments which will produce performance improvements *and* for all investments which do not claim savings or cost avoidances. Performance measures must be quantified for both the "as is" and "to be" environments and expressed in terms of metrics relevant to (1) the mission or business area for functional applications or (2) to improved technical capability where infrastructure applications are concerned; as follows:

  - "As Is" Environment: Quantitative measures which reflect performance *prior* to the gains to be realized as a result of the development or modernization.

  - "To Be" Environment: Quantitative measures which reflect projected performance *after* the improvements resulting from the investment are realized.

- Relevance to Mission/Agency Goals: Each developmental or modernization effort should directly support the organization's and the DON mission and should relate to DoD and DON objectives or goals. In this era of diminishing resources, this factor is critical in deciding whether to undertake a particular investment.

- Risk: The Clinger-Cohen Act of 1996 requires that risk be factored into the investment decision-making process. The

[1] It is recognized that not all IT investments will result in savings or cost avoidances. Similarly, not all investments will result in performance improvements. However, it is expected that all investments will produce either savings/cost avoidances *or* performance improvements and that, as a minimum, one of the two is required for funding approval.

relative risk of an investment must be considered when prioritizing competing investment alternatives for potential funding. Every effort should be made to minimize risk, in terms of both the acquisition strategy for a particular investment and the overall investment portfolio selected for funding. Following are examples of risk factors which should be considered in deciding whether to fund a particular investment:

- Large Investment/Minimal ROI: A large investment with a minimally acceptable ROI is inherently risky. Unexpected growth in development or modernization costs could cause the ROI to shift into the unfavorable range.

- Project Longevity: Longer duration projects are more risky than those which adopt a modular approach that combines controlled system development with rapid prototyping.

- Technical Risk: Investments which involve "cutting edge" technology or which represent new developmental items are more risky than those which take advantage commercially available or non-developmental items.

Appendix E

Resources and Requirements Review Board (R3B)/ Integrated Resources and Requirements Review Board (IR3B) and DON Program Strategy Board (DPSB) Membership

⇒ **R3B:**
- N8, Chair
- N8B/8T/80/81/82/83/51
- N1/2/3/4/5/6/7
- N09G/093/095
- DC/S(P&R)
- NAVAIR
- NAVSEA
- MSC
- President of CNA
- CHINFO
- OLA
- Naval War College

⇒ **DPSB:**
- SECNAV, Chair
- CNO
- VCNO
- CMC
- ACMC
- UNSECNAV
- General Counsel
- ASN(FM&C)
- ASN(I&E)
- ASN(M&RA)
- ASN(RDA)

⇒ **IR3B**:
- N8 & DC/S(P&R), Co-chair

For IR3B membership, add the following to the list of R3B members:

- General Counsel
- ASN(M&RA)
- ASN(FM&C)
- ASN(I&E)
- ASN(RDA)
- OPA
- N84/85/86/87/88/89
- N091/096
- DC/S(PP&O)
- Dir, PD
- Deputy Dir, PD
- Dir, PA
- ADC/S PP&O
- CG, MCCDC
- DC/S (AVN)
- AC/S C4I
- DC/S (PP&O)
- DC/S (I&L)
- DC/S (M&RA)
- DAC/S (C4I)
- IG MC
- COMMARCORSYSCOM

Appendix F

DEPARTMENT OF THE NAVY
OFFICE OF THE CHIEF OF NAVAL OPERATIONS
2000 NAVY PENTAGON

WASNINGTON, D.C. 20350-2000

IN REPLY REFER TO
POM 00-5
Ser 8O1X/8U64OC33
13 March 1998

MEMORANDUM FOR DISTRIBUTION

Subj: POM-OO REVIEW OF MAJOR INFORMATION TECHNOLOGY (IT) INVESTMENTS

Ref: (a) DOD 7000-14R, Financial Managernent Regulation, Vol. 2B, para 180203, Jul 96
(b) DASD C31 memo of 11 Jun 97
(c) DON Information Resources Strategic

Encl: (1) Major IT investment programs
(2) Definition of IT development and modernization
(3) Minimum Information Technology (IT) Investment Approval Criteria

1. Purpose. To issue guidance requiring Resource Sponsor review of major IT investments as part of POM-OO development.

2. Background.

a. Section 5122 of the Clinger-Cohen Act of 1996 (also referred to as Information Technology Management Reform Act - ITMRA) requires the heads of executive agencies to implement a process for maximizing the value of IT acquisition in the agency, well as to assess and manage risk. The law also requires that IT investment choices be based on established minimum criteria and be integrated into fiscal and program decision process. Office of the Secretary' of Defense (OSD) and the Military Departments (MILDEPS) have determined that the existing Planning, Programming and Budgeting System (PPBS) process will be used to review IT investments.

Subj: POM-00 REVIEW OF MAJOR 1NlFORMATION TECHNOLOGY (IT) INVESTMENTS

b. The Under Secretary of Defense (Comptroller) conduct a review of a11 major IT investments under their cognizance during POM-OO development. To ensure Navy is prepared for this review and to comply with the provisions of the law, Resource Sponsors must strengthen their reviews of major IT investments during POM development.

3. Scope.

a. The review should include all major IT Investments. Our IT investment programs and corresponding Resource Sponsor assignments are listed in enclosure (1). See reference (a) for the definition of IT development and modernization (Dev/Mod) enclosure (2)). See reference (b) for a discussion of major automated information systems (MAIS) programs. IT investments to be reviewed are as follows:

(1) Any Dev/Mod funding for existing MAIS and special interest projects or initiatives currently designated as ACAT 1AM or 1AC Acquisition programs.

(2) Any Dev/Mod funding for existing IT systems currently designated as ACAT II, III, or IV under the "weapons" systems umbrella (e.g., C4I-related systems) and whose program cost exceed $30 million in any single year or $120 million life-cycle or whose total life-cycle cost exceed $360 million (dollars thresholds are expressed in FY-96 constant dollars).

(3) New Dev/Mod efforts whose program costs exceed $30 million in any one year or $120 million life-cycle or whose total life-cycle exceed $360 million (dollar thresholds are expressed in FY-96 constant dollars).

b. Currently no major IT Dev/Mod efforts are funded through the Navy Working Capital Fund (NWCF) (cost and capital budget authority). However, any future NWCF-funded IT program must be reviewed under the ITMRA.

4. Action.

a. Navy Resource Sponsors will conduct a review of all major IT investments under their cognizance during POM development. Reviews should focus, as a minimum, on savings and/or cost avoidance, risk-adjusted return-on-investment (ROI) or net present value (NPV), performance measures and relevance to mission as the basis for funding IT Dev/Mod efforts Enclosure (3) lists the minimum criteria for IT program reviews.

Subj: POM-00 REVIEW OF MAJOR 1NlFORMATION TECHNOLOGY (IT) INVESTMENTS

b. Resource Sponsors must include the status of IT investments as part of their Sponsor Program Proposal (SPP) briefs. Findings from IT reviews will be essential to show compliance with IMTRA and to support major Navy IT program decisions during OSD review of the POM.

5. Questions or comments may be directed to Mr. Russ Jones (N6OE), (703) 601-l293, or CDR Steve Sadler (N801X) (703) 614-0337.

P. S. STANLEY
Head, Program planning
and Development Branch
(N801)

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(See next page)

Subj: POM-00 REVIEW OF MAJOR 1NlFORMATION TECHNOLOGY (IT) INVESTMENTS

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4. Maintenance of existing voice and data communications capabilities.

5. Replacement of broken IT equipment needed to continue operations at the current service level.

6. All other related costs not identified as Development/Modernization.

D. Depreciation Expense. For the purpose of Exhibit 43, "Report on Information Resources" reporting WCF activities will not report depredation expense. For WCF activities, depreciation expense is built into the billing rates. Therefore, to minimize the reporting burden for WCF and non-WCF activities, the depreciation expense included in the payment and collection of services (reported under line 8, "Intra-Governmental Payments, and line 9, "Intra-Governmental Collections," respectively) will not require any special adjustments *(except for the Defense Megacenters as discussed below).* The full purchase price for equipment, software, services, support services and supplies will be reported in the appropriate category. This reporting policy will (1) eliminate duplicate reporting of equipment and software purchases by removing the reporting of past purchases through depreciation; (2) allow comparable reporting for WCF and non-WCF activities; and (3) accurately portray the Department total of all Defense Components (the depreciation expense will net to zero for payments and collections).

1. The Defense Megacenters will require special reporting to separately account for depreciation of capital assets on the Exhibit 43 in item 7, Other. Because their capital requirements are collected as part of their rates and also displayed on their Exhibit 43 as purchases or leases an adjustment is required. Depreciation will be included in item 7 to net to zero the purchases/leases of capital assets shown in items 1. Equipment 2. Software, etc. on the Exhibit 43 for the Defense Information Systems Agency (DISA).

2. The DISA will ensure that this data tracks with the WCF capital exhibits and does not cause any double accounting of IT resources in the DoD IT total.

E. Development/Modernization. Any change or modification to an existing AIS which results in improved capability or performance of the baseline AIS. Improved capability or performance achieved as a byproduct of the replacement of broken IT equipment to continue operations at the current service levels is not categorized as Development/Modernization.

Development/Modernization includes:

1. Program costs for new AISs that are planned or under development.

2. Any change or modification to an existing AIS which is intended to result in improved capability or performance of the AIS. These changes include (a) all modifications to existing operational software (other than corrective software maintenance); (b) acquiring technologically newer IT equipment to replace outdated IT equipment regardless of the age of the equipment or its commercial availability; and (c) expansion of existing capabilities to new users.

3. Changes mandated by Congress or the Office of the Secretary of Defense.

4. Personnel from the project management office and other direct support personnel involved with Development/Modernization.

F. Economic Replacement Economic replacement of outdated IT equipment is not considered "Current Services" and shall be reported under "Development/Modernization."

G. Information Technology (IT) Resources. Refer to OMB Circular A-11, Section 43, "Data on Acquisition, Operation, and Use of Information Technology" and the Information Technology Reform Act of 1996 (ITMRA) for the definitions regarding IT Resources. However, section 180402 provides basic definitions and examples of IT Resources. "IT Resources" and "ADPE" are used synonymously in this chapter.

H. General Management Personnel. Includes those people who are in policy, oversight, and/or other functions such as review of AIS program plans, life-cycle management oversight, strategic planning, *headquarters staff, base level operators, engineers,* etc. For the purposes of Exhibit 43 reporting, general management

Enclosure (2)

MINIMUM INFORMATION 'TECHNOLOGY (IT) INVESTMENT APPROVAL CRITERIA

The following criteria are the minimum criteria, which must be considered by Resource Sponsors in making IT investment (Dev/Mod) funding decisions. All IT investments should produce either savings/cost avoidances *or* performance improvements, and that, as a minimum one or both of these is required for funding approval.

- Savings/Cost Avoidances: The initial POM review of a particular IT investment will focus on planned savings or cost avoidances. Subsequent POM/PR reviews should also examine the degree to which actual savings/cost avoidances were achieved as one criterion for continued funding. Savings/cost avoidances should be identified by fiscal year and as a total for the life-cycle of the program.

- Return-on-Investment (ROI)/Net Present Value (NPV): Required when there are projected savings or cost avoidances, ROI and NPV computations will facilitate the prioritization of multiple investment alternatives.

- Performance Measures: Required for all investments, which will produce performance improvements, *and* for all investments which do not claim savings or cost avoidances. Performance measures must be quantified for both the "as is" and "to be" environments and expressed in terms of metrics relevant to (1) the mission or business area for functional applications or (2) to improved technical capability where infrastructure applications are concerned.

- Relevance to Mission/Agency Goals: Each developmental or modernization effort should directly support the Navy mission and should relate to objectives or goals outlined in reference (c). This factor is critical in deciding whether to undertake a particular investment.

- Risk: The ITMRA requires that risk be factored into the investment decision process. The relative risk of an investment must be considered when prioritizing competing investment alternatives. Following are examples of risk factors which should be considered in deciding whether to fund a particular investment:

    - Large Investment/Minimal ROI
    - Project Longevity
    - Technical Risk

Enclosure (3)

Appendix G

7100
Serial 01/98-0002
20 Mar 1998

MEMORANDUM FOR DISTRIBUTION LIST

Subj: REVIEW OF NAVY INFORMATION TECHNOLOGY (IT) INVESTMENTS

Ref: (a) POM Serial 00-5 N801X/8U640033 of 13 March 1998 (NOTAL)
(b) DoD 7000-14R, Financial Management Regulation, Volume 2B, para 180203, of July 1996

Encl: (1) Minimum Criteria for Approval of IT Investment Funding

This letter promulgates DON policy concerning the Clinger-Cohen Act of 1996 requirement to base IT investment funding decisions on quantified mission benefits. Section 5122 of the law requires that the Agency Head implement an IT investment capital planning process which: (1) Provides for the selection, management and evaluation of IT investments; (2) Is integrated with the processes for making budget and program management decisions; and (3) Bases IT investment funding decisions on minimum criteria that quantify the benefits of the investment to the mission or business area. Rather than create a parallel process for IT investments, OSD and the MILDEPs have agreed that the existing Planning, Programming and Budgeting System (PPBS) will be used to select IT investments for funding and that the acquisition process will be used to manage and evaluate the investments over their life-cycle.

The Office of the Under Secretary of Defense (Comptroller)(Program Analysis & Evaluation) reviews the MILDEPs' major IT investments during its annual program review immediately following submission of the Services' Program Objectives Memorandum (POM)/Program Review (PR) inputs to OSD. In view of the OSD oversight and in order to protect Navy total obligation authority, Navy has strengthened its review of major IT investments during the annual

POM/PR process by requiring Resource Sponsors to base funding decisions for major IT investments on minimum criteria which quantify the benefits of the investment to the mission area (reference (a)). A similar review is required for non-major IT investments in order to fully comply with the law. Accordingly, addressees are requested to conduct an annual review of all non-major IT investments, as defined below, and base funding decisions for those investments on the minimum criteria reflected on enclosure (1). Since the Navy POM TAB G submission forwarded to OSD represents the Navy's approved IT investment portfolio, all internal reviews should be completed and funding decisions reflected in the claimant's annual TAB G submission to CNO (N60E).

A non-major IT investment subject to claimant review and funding approval is defined as any development or modernization (Dev/Mod)(see reference (b) for definition) funding for an automated information system (AIS) or project currently designated as ACAT III or IV or for any new initiative whose program costs will not exceed $30 million in any single year or $120 million life-cycle or whose total life-cycle costs will not exceed $360 million (thresholds expressed in FY96 constant dollars). This requirement also applies to Dev/Mod funding for National Security Systems (NSS) (term as defined in Clinger-Cohen Act, e.g., intelligence, command and control, etc.), with the exception of weapons systems, which do not exceed the above dollar thresholds. Scope of the reviews should extend to all non-major IT Dev/Mod initiatives regardless of appropriation, including initiatives financed by the Navy Working Capital Fund. These reviews should be conducted annually to ascertain if actual benefits were realized as projected as one prerequisite for continued funding of Dev/Mod initiatives.

Addressees may establish thresholds for internal review within the claimancy, retaining review/funding approval authority for the larger investments at the headquarters level while delegating funding approval for smaller initiatives to lower levels, provided the approval criteria are consistently applied. While no external reporting is required, addressees should be prepared to provide documentation of the reviews on which non-major IT investment funding decisions were based if requested by higher authority.

The review of major and non-major IT investments by Navy Resource Sponsors and claimants against minimum criteria as a prerequisite for funding approval will ensure that the Department is in full compliance with the law and that IT investments are evaluated, selected for funding based on contribution to mission accomplishment

and incorporated appropriately into the Department's overall investment portfolio.

Questions regarding the above requirement may be directed to Mr. Carl E. Bolter, (703) 602-6308 or DSN 332-63087, or Mr. R. M. Wagner, (703) 602-6307 or DSN 332-6307, of the Office of the DON CIO.

Dr. Ann Miller

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PEO for Surface Combatants/Aegis Program
PEO for Carriers, Littoral Warfare and Auxiliary Ships
DRPM for Advanced Amphibious Assault

Minimum Information Technology (IT) Investment Approval Criteria

The following criteria are the minimum criteria which must be examined in making IT investment (i.e., Dev/Mod) funding decisions:

- Savings/Cost Avoidances[3]: Annual review of a particular IT investment will examine planned savings or cost avoidances. Subsequent annual reviews should examine the degree to which actual savings/cost avoidances were achieved as planned as one criterion for continued funding. Savings/cost avoidances should be identified by fiscal year and as a total for the life-cycle of the program.

  - Savings: Reduction in budgeted costs resulting from the IT development or modernization effort. Savings should be recouped from TOA and the amount of the recoupment documented for future reference.

  - Cost Avoidances: Reduction in unbudgeted costs resulting from the IT development or modernization effort. Although adjustment to TOA is inappropriate in these cases, cost avoidances can be a valid basis for undertaking an investment.

- Return-on-Investment (ROI)/Net Present Value (NPV): Required when there are projected savings or cost avoidances, ROI and NPV computations will facilitate the prioritization of multiple investment alternatives.

  - ROI: Defined as discounted life-cycle benefits (i.e., savings or cost avoidances stream over the life-cycle), divided by discounted life-cycle costs. Investments must have an ROI greater than "1.0" to be considered for funding. Note that in instances where competing investments have similar or identical NPVs (defined below), ROI may be used to identify the investment with the largest *relative* benefit.

[3] It is recognized that not all IT investments will result in savings or cost avoidances. Similarly, not all investments will result in performance improvements. However, it is expected that all investments will produce either savings/cost avoidances *or* performance improvements and that, as a minimum, one of the two is required for funding approval.

- NPV: Defined as discounted life-cycle benefits, less discounted life-cycle costs. Investments must have a positive result to be considered for funding. Note that in instances where competing investments have similar or identical ROIs, NPV may be used to identify the investment with the largest *net* benefit.

- Performance Measures[1] : Required for all investments which will produce performance improvements *and* for all investments which do not claim savings or cost avoidances. Performance measures must be quantified for both the "as is" and "to be" environments and expressed in terms of metrics relevant to (1) the mission or business area for functional applications or (2) to improved technical capability where infrastructure applications are concerned; as follows:

  - "As Is" Environment: Quantitative measures which reflect performance *prior* to the gains to be realized as a result of the development or modernization.

  - "To Be" Environment: Quantitative measures which reflect projected performance *after* the improvements resulting from the investment are realized.

- Relevance to Mission/Agency Goals: Each developmental or modernization effort should directly support the organization's and the DON mission and should relate to DoD and DON objectives or goals. In this era of diminishing resources, this factor is critical in deciding whether to undertake a particular investment.

- Risk: The Clinger-Cohen Act of 1996 requires that risk be factored into the investment decision-making process. The relative risk of an investment must be considered when prioritizing competing investment alternatives for potential funding. Every effort should be made to minimize risk, in terms of both the acquisition strategy for a particular investment and the overall investment portfolio selected for funding. Following

[1] It is recognized that not all IT investments will result in savings or cost avoidances. Similarly, not all investments will result in performance improvements. However, it is expected that all investments will produce either savings/cost avoidances *or* performance improvements and that, as a minimum, one of the two is required for funding approval.

are examples of risk factors which should be considered in deciding whether to fund a particular investment:

- Large Investment/Minimal ROI: A large investment with a minimally acceptable ROI is inherently risky. Unexpected growth in development or modernization costs could cause the ROI to shift into the unfavorable range.

- Project Longevity: Longer duration projects are more risky than those which adopt a modular approach that combines controlled system development with rapid prototyping.

- Technical Risk: Investments which involve "cutting edge" technology or which represent new developmental items are more risky than those which take advantage commercially available or non-developmental items.

Appendix H

Apr 27 1998

Memorandum for Assistant Chief of Staff, C4I Department (ATTN: CIO)

Subj: Review of Information Technology (IT) Investments

Ref: (a) POM Serial 00-5 N801X/8U640033 of 13 March 1998 (NOTAL)
(b) DON CIO memo 7100 Serial 01/98-0002 of 20 March 1998 (NOTAL)
(c) DoD 7000-14R, Financial Management Regulation, Volume 2B, para 180203, of July 1996

Encl: (1) Minimum Criteria for Approval of IT Investment Funding

Section 5122 of the Clinger-Cohen Act of 1996 established the requirement to base IT investment funding decisions on minimum criteria which quantify benefits of the investment to the mission or business area. References (a) and (b) promulgated policy within the Navy for review of major and non-major IT investments by Navy Resource Sponsors and claimants, respectively, against minimum criteria as a prerequisite for funding approval. This letter forwards those same minimum criteria (enclosure (1)) which should be used by Marine Corps (MC) Planning, Programming and Budgeting System (PPBS) decision-makers in evaluating IT investments for potential funding and prioritizing those investments against other investment alternatives during Program Objectives Memorandum (POM) or budget development or budget execution.

The criteria at enclosure (1) should be applied, as a minimum, to all IT development or modernization (Dev/Mod) requirements as a prerequisite for allocating funding to those initiatives (see reference (c) for definition of Dev/Mod). This requirement extends to all National Security Systems (NSS; term as defined in Clinger-Cohen Act) IT applications, with the exception of those in weapons systems, and to all appropriations including initiatives financed through the Navy Working Capital Fund (NWCF). While no external reporting is associated with this requirement, documentation to support the IT investment

funding decisions should be maintained and available if requested by higher authority (e.g., GAO).

The application of these IT investment funding approval criteria during the existing MC POM development process, which already provides for the evaluation of MC IT investments against all other investment alternatives, will ensure that the Department is in full compliance with Section 5122 of Clinger-Cohen; that IT investments are selected for funding based on quantified mission benefits; and that the IT investments are incorporated appropriately into the Department's overall investment portfolio.

Questions regarding the above requirement may be directed to Mr. Carl E. Bolter, (703) 602-6308 or DSN 332-6308, or Mr. R. M. Wagner, (703) 602-6307 or DSN 332-6307, of the Office of the DON CIO.

Dr. Ann Miller
DON CIO

Minimum Information Technology (IT) Investment Approval Criteria

The following criteria are the minimum criteria which must be examined in making IT investment (i.e., Dev/Mod) funding decisions:

- Savings/Cost Avoidances[4]: Annual review of a particular IT investment will examine planned savings or cost avoidances. Subsequent annual reviews should examine the degree to which actual savings/cost avoidances were achieved as planned as one criterion for continued funding. Savings/cost avoidances should be identified by fiscal year and as a total for the life-cycle of the program.

  - Savings: Reduction in budgeted costs resulting from the IT development or modernization effort. Any savings recouped from TOA should be documented for future reference.

  - Cost Avoidances: Reduction in unbudgeted costs resulting from the IT development or modernization effort. Although adjustment to TOA is inappropriate in these cases, cost avoidances can be a valid basis for undertaking an investment.

- Return-on-Investment (ROI)/Net Present Value (NPV): ROI and NPV computations facilitate the prioritization of multiple investment alternatives.

  - ROI: Defined as discounted life-cycle benefits (i.e., savings or cost avoidances stream over the life-cycle), divided by discounted life-cycle costs. Investments must have an ROI greater than "1.0" to be considered for funding. Note that in instances where competing investments have similar or identical NPVs (defined below), ROI may be used to identify the investment with the largest *relative* benefit.

  - NPV: Defined as discounted life cycle benefits less discounted life-cycle costs. Investments must have a

[4] It is recognized that not all IT investments will result in savings or cost avoidances. Similarly, not all investments will result in performance improvements. However, it is expected that all investments will produce either savings/cost avoidances *or* performance improvements and that, as a minimum, one of the two is required for funding approval.

positive result to be considered for funding. Note that in instances where competing investments have similar or identical ROIs, NPV may be used to identify the investment with the largest *net* benefit.

- Performance Measures[1]: Required for all investments which will produce performance improvements *and* for all investments which do not claim savings or cost avoidances. Performance measures must be quantified for both the "as is" and "to be" environments and expressed in terms of metrics relevant to (1) the mission or business area for functional applications or (2) to improved technical capability where infrastructure applications are concerned; as follows:

  - "As Is" Environment: Quantitative measures that reflect performance *prior* to the gains to be realized as a result of the development or modernization.

  - "To Be" Environment: Quantitative measures that reflect projected performance *after* the improvements resulting from the investment are realized.

- Relevance to Mission/Agency Goals: Each developmental or modernization effort should directly support the organization's and the DON mission and should relate to DoD and DON objectives or goals. In this era of diminishing resources, this factor is critical in deciding whether to undertake a particular investment.

- Risk: The Clinger-Cohen Act of 1996 requires that risk be factored into the investment decision-making process. The relative risk of an investment must be considered when prioritizing competing investment alternatives for potential funding. Every effort should be made to minimize risk, in terms of both the acquisition strategy for a particular investment and the overall investment portfolio selected for funding. Following are examples of risk factors which should be considered in deciding whether to fund a particular investment:

[1] It is recognized that not all IT investments will result in savings or cost avoidances. Similarly, not all investments will result in performance improvements. However, it is expected that all investments will produce either savings/cost avoidances *or* performance improvements and that, as a minimum, one of the two is required for funding approval.

- Large Investment/Minimal ROI: A large investment with a minimally acceptable ROI is inherently risky. Unexpected growth in development or modernization costs could cause the ROI to shift into the unfavorable range.

- Project Longevity: Longer duration projects are more risky than those which adopt a modular approach that combines controlled system development with rapid prototyping.

- Technical Risk: Investments which involve "cutting edge" technology or which represent new developmental items are more risky than those which take advantage commercially available or non-developmental items.

Appendix I

Investment Criteria Ranking Scorecard

Overall Risk Factors	**Risk**
Security – What is security risk for this solution? (Consider: Is it part of our DON IM/IT architecture? Have similar solutions provided adequate security? Is there a security risk due to complexity?)	1 2 3 4 5 Low High
Investment Size – How large is the proposed investment? (Consider: Is there a risk to future funding stream?)	1 2 3 4 5 Low High
Management Risk – Has the command successfully managed similar IM/IT projects? (Consider: Does project team have requisite skills?)	1 2 3 4 5 Low High
Architecture Impact – Will this impact enterprise architecture? (Consider: Will it integrate into existing infrastructure? What are risks of not proceeding?)	1 2 3 4 5 Low High
User Impact – What is potential negative impact to users? (Consider: Do users have requisite skills to adapt? Will the implementation cause disruption in productivity? Is there loss of worker quality of life?)	1 2 3 4 5 Low High
Technical Feasibility – Have other similar implementations been completed? (Consider: Is the technology mature?)	1 2 3 4 5 Low High
Complexity – Consider: Is it COTS? Is it modular? Do we have the skills to operate and maintain? Will it be integrated into existing systems? How long is the development time?	1 2 3 4 5 Low High
Total Risk Rating (Subjective rating - not constrained mathematically by above 7 factors)	**1 2 3 4 5 Low High**
Benefit-Cost Factors	**Benefit**
Mission Relevance – Does the IT investment directly support a mission that is core to this command? (Consider: Is there a direct link to a mission?)	1 2 3 4 5 Low High
Process Re-invention – Is process re-invention being performed before or in conjunction with the IM/IT project?	1 2 3 4 5 Low High
Mission Effectiveness – How much does the IT investment contribute to improving mission performance? (Consider: Does this provide a capability or improvement in our warfare effectiveness? Does it improve our ability to support the Warfighter? How well does the IT investment address customer needs and demands for increased service quality and timeliness or reductions in costs?)	1 2 3 4 5 Low High
Return on Investment – How big is the Return on Investment (Consider: Productivity gain and/or Cost reduction – Is there a large increase in productivity and/or is there a large cost savings resulting from this IT investment?)	1 2 3 4 5 Low High
Performance Measures – Does the investment have performance measures for the "As-Is" and "To-Be" environments, which quantify the performance improvement to the business or mission area?	1 2 3 4 5 Low High
Essential Service – Is the proposed investment required for essential operations to prevent disruption or degradation of services? (Consider: utilities, critical services and support, mandated requirements)	1 2 3 4 5 Low High
Total Benefit – Cost Rating (Subjective rating - not constrained mathematically by above 4 factors)	**1 2 3 4 5 Low High**
Total Net Risk/Benefit Rating (subtract total risk score from benefits score to yield a risk-adjusted rating)	**Score Value:**

Appendix J

Organizational Portfolio Planning Model

TO BE DEVELOPED (i.e., from Investment Practices IPT)

Appendix K

1 May 1997

MEMORANDUM FOR: SEE DISTRIBUTION

SUBJECT: Requirements for Compliance with Reform Legislation for Information Technology (IT) Acquisitions (Including National Security Systems)

In the past several years, Congress has enacted legislation intended to improve the management and performance of Federal Agencies. These laws include Division E of the Clinger-Cohen Act of 1996 (formerly titled the Information Technology Management Reform Act of 1996 and hereinafter referred to as the ITMRA), the Government Performance and Results Act (GPRA) of 1993, and the Paperwork Reduction Act (PRA) of 1995. Furthermore, recent guidance from the Office of Management and Budget (OMB) places added emphasis on managing investments, to include weapon systems. Most of our regulatory guidance for major Defense acquisitions is consistent with the intent of these laws. However, we need to formally incorporate these requirements into the regulatory guidance and our oversight processes.

The ITMRA applies to all IT acquisitions, including IT supporting weapon systems and other National Security Systems (NSS). It requires the Secretary of Defense to maximize the value and assess and manage the risks of the Department's (IT) acquisitions. As the DoD Chief Information Officer (CIO), the ASD (C3I) is responsible for ensuring that IT is acquired and information resources are managed for the Department within an integrated management framework.

NSS acquisitions will be reviewed by the appropriate Milestone Decision Authority (MDA) to ensure they comply with applicable provisions of ITMRA. Sections 5123, 5125, and 5126 and 5113(b)(5)(except for subparagraph (B)(iv)) apply to all NSS. Initially, sections 5112, 5122, and the remainder of 5113 will apply to individual NSS except as determined not to be practicable on a case by case basis. Guidance to assist in making this determination will be developed by the offices of the DoD CIO and USD (A&T). For NSS subject to review by the

Defense Acquisition Board, the DoD CIO shall provide an assessment of ITMRA compliance to the MDA through the DAB integrated product team (IPT) process. Component Milestone Decision Authorities (MDAs) and CIOs should follow similar practices for IT programs subject to their review and approval.

The attached matrix correlates the ITMRA, GPRA, and PRA requirements with the other statutory and DoD regulatory acquisition requirements. To help ensure program success, IPT members should consider these requirements as programs progress through the acquisition process. These requirements shall be applied, as appropriate to each increment of incremental and evolutionary programs. To the maximum extent possible, these requirements should be addressed by incorporating them into existing acquisition processes, procedures, and documents.

At each major milestone, the MDA and the CIO will address these requirements as follows:

Pre Milestone 0. Some of these requirements (those that address the need for IT and the processes supported by IT) are the responsibility of the user or the functional proponent. Responsibility for ensuring compliance with these requirements prior to MDA Milestone 0 approval belongs to the appropriate user or functional proponent in coordination with the Joint Requirements Oversight Council (JROC) process, the Component, or the Principal Staff Assistant (PSA).

Milestones 0 through III. Many of these requirements are similar to those that are currently provided in DoD 5000.2-R and are, therefore, appropriate for MDA review at each major milestone. For NSS subject to review by the Defense Acquisition Board, the CIO shall provide the MDA an assessment of compliance with these requirements through the DAB IPT process.

Post Milestone III. Milestone III Acquisition Decision Memoranda (ADMs) will include post-deployment performance evaluation and other performance measures guidance, as appropriate. The ADM should be clear that the user or functional proponent will perform this post-deployment evaluation and provide the results to the CIO.

Please submit your MAISRC-related questions to Dr. Margaret Myers at (703) 681-4986, e-mail address: margaret.myers@osd. mil. Your DAB or NSS-related questions should be

directed to Ms. Joanne Ferguson, (703) 695-0906, e-mail address: joanne.ferguson@osd. mil. General comments can be submitted to either point of contact.

Paul G. Kaminski	John J. Hamre	Emmett Paige, Jr.
Under Secretary of Defense (Acquisition & Technology)	Under Secretary of Defense (Comptroller) Chief Financial Officer	Assistant (Command, Control, Communications, and Intelligence) Chief Information Officer

Attachment

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Under Secretaries of Defense
Director, Defense Research and Engineering
Assistant Secretaries of Defense
General Counsel of the Department of Defense
Inspector General of the Department of Defense
Director, Operational Test and Evaluation
Assistants to the Secretary of Defense
Director, Administration and Management
Directors of the Defense Agencies
Directors of the Field Activities
Service Acquisition Executives
Chief Information Officers of the Department of Defense

CIO and DoD Program Requirements									
Program Requirement ***(Short Title)***	**Source of Requirement*** **Statutory** **Regulatory**		**Milestone Applicability** **0**	**I**	**II**	**III**	**Potential Information Source**	**Prepared By**	**Approval ***/ Considered By**
Does it support DoD Core/ Primary mission functions? *(core mission)*	**Sec. 5123 (1),(3)**; *Sec. 3501(10)*; GPRA	Part 2.3; CJCS MOP 77	X	X	X	X	Mission Need Statement (with linkage to DoD Strategic Plan), ORD	Component	JROC***/ PSA***
Is it an inherently government function? *(outsourcing)*	**Sec. 5113 (b)(2)(B)**	Parts 2.3.1, 2.4	X	X			Mission Need Statement, ORD, Analysis of Alternatives	Component PSA/ Component	JROC***/ PSA*** MDA
Have work processes been redesigned to reduce costs and improve effectiveness (including benchmarking against comparable processes in other public or private organizations)? *(BPR/ benchmarking)*	**Sec. 5123 (4 & 5)**	Parts 2.3, 2.4; OMB Cir A-130	X	X			Mission Need Statement, Analysis of Alternatives	Component PSA/ Component	JROC***/ PSA*** MDA
Does it maximize use of COTS technology? *(COTS solution)*	**Sec. 5122 (b)(3), Sec. 5201;** 10 USC 2377; FASA Sec 8104	Part 2.3	X	X			Mission Need Statement, Analysis of Alternatives	Component PSA/ Component	JROC***/ PSA*** MDA
Does the projected ROI support this alternative? [ROI includes: improvements to mission performance, resource savings, or	**Sec. 5122 (b)(3),(5)**; 10 USC 2434; *Sec.*	Part 2.3, 2.4, 3.5; OMB Cir A-130	X	X X	X	X	Analysis of Alternatives, Life-Cycle Cost (and Benefit) Estimate	PSA/ Component PM	MDA

CIO and DoD Program Requirements									
Program Requirement ***(Short Title)***	**Source of Requirement*** **Statutory** **Regulatory**		**Milestone Applicability** **0**	**I**	**II**	**III**	**Potential Information Source**	**Prepared By**	**Approval ***/ Considered By**
qualitative mission benefits]*(ROI)*	*3506 (b)(5)*								
Are work processes, information flows, and technology integrated to achieve DoD strategic goals? *(strategic goals)*	**Sec. 5123 (1),(5)**; *Sec. 3506 (b)(3)(C)*	Part 2.3, 2.6	X	X			Information Technology Management Strategic Plan, PSA/ component strategic plans	PSA/ Component	MDA
Does it reflect DoD's technology vision? *(technology)*	**Sec. 5125 (b)(2)**; *Sec. 3506 (b)(2), (h)(1)*	DoDD 4630.5; DoDI 4630.8; CJCSI 6212.01A					Information Technology Management Strategic Plan	CIO	MDA
- Joint Technical Architecture *(JTA)*		Parts 2.2.1, 4.3.5; 22 Aug 96 JTA Memo		X	X	X	Acquisition Strategy, C4I Support Plan	PM	MDA
- Technical Architecture for Information Management *(TAFIM)*		Parts 4.3.4, 4.3.8		X	X	X	Acquisition Strategy	PM	MDA***
Is it Year 2000 compliant? *(Year 2000)*	**Sec. 5122 (b)(3)**	16 Aug 96 Year 2000 Memo; 5 Nov 96 DIST Memo		X	X	X	Acquisition Strategy, Defense Integration Support Tools (DIST)	PM	MDA***
Does it incorporate standards	**Sec. 5122**	DoDD							

CIO and DoD Program Requirements									
Program Requirement ***(Short Title)***	**Source of Requirement*** **Statutory** **Regulatory**		**Milestone Applicability** **0**	**I**	**II**	**III**	**Potential Information Source**	**Prepared By**	**Approval ***/ Considered By**
that enable information exchange and resource sharing while retaining flexibility? *(standards/flexibility)*	**(b)(3), Sec. 5202**; *Sec. 3504 (h)(1), (4)(B) Sec. 3506 (b)(1)(A)*	8320.1-M							
- Defense Information Infrastructure Common Operating Environment *(DII COE)*		22 Aug 96 JTA Memo		X	X	X	Acquisition Strategy	PM	MDA**
- Automated information collection/Continuous Acquisition and Life-Cycle Support (CALS)		Part 3.3.4.5; DFARS 207.105, 227, 252		X	X	X	Acquisition Strategy	PM	MDA***
- Software engineering -- Software reuse -- Software language -- DoD standard data		Part 4.3.5; DoDD 3405.1; DoDD 8320.1		X	X	X	Software Engineering Strategy	PM	MDA
- Information assurance	**Sec. 5123 (6)**; *Sec. 3504(g)*	Part 4.3.5 & 4.4.6; DoDD TS-3600.1; DoDD 5200.28		X	X	X	Information Assurance Strategy	PM	MDA

CIO and DoD Program Requirements									
Program Requirement ***(Short Title)***	**Source of Requirement*** **Statutory** **Regulatory**		**Milestone Applicability** **0**	**I**	**II**	**III**	**Potential Information Source**	**Prepared By**	**Approval ***/ Considered By**
- Electromagnetic Environmental -- Effects (E3) and Spectrum -- Management		Part 4.4.7; DoDD 3222.3; DoDD 4650.1; OMB Cir A-11		X	X	X	C4I Support Plan	PM	MDA
Does it avoid/isolate custom-designed Components? *(open systems)*	**Sec. 5201, Sec. 5202 (a)**	Part 4.3.4; USD(A&T) Memo		X	X	X	Acquisition Strategy	PM	MDA***
Will it have fully tested pilots, simulation, or prototypes before production/deployment? *(OT&E)*	10 USC 2399	Part 3.4			X	X	TEMP	PM	DOT&E***
Are there clearly established measures and accountability for program progress? Are these measures linked to strategic goals? *(performance measures)*	**Sec. 5123 (1),(3),(4)**; 10 USC Sec. 2220; *Sec. 3506 (b)(2);* GPRA		X	X	X	X	Mission Need Statement, ORD	Component	JROC***/ PSA**
- Acquisition Program Baseline	10 USC 2220(a)(1), 2435	Part 3.2		X	X	X	APB	PM	MDA***
- Cost as an Independent Variable (CAIV) objectives	10 USC	Part 3.3.3; DoDD 5000.1		X	X	X	Acquisition Strategy, APB	PM	MDA***

CIO and DoD Program Requirements									
Program Requirement ***(Short Title)***	**Source of Requirement*** **Statutory** **Regulatory**		**Milestone Applicability** **0**	**I**	**II**	**III**	**Potential Information Source**	**Prepared By**	**Approval ***/ Considered By**
- Milestone Exit Criteria	2220(a)(1)	Part 3.2.3		X	X	X	ADM	PM	MDA***
- Software measures		Part 4.3.5		X	X	X	MAISRC Quarterly Report	PM	MDA
Is it supported by all intended users or sponsors? *(full funding)*	**Sec. 5122 (2)**	Part 2.5; DoDD 5134.1; OMB Cir A-11		X	X	X	ORD, Affordability Assessment	Component PA&E	JROC***/ PSA*** MDA
Will it be implemented in phased, successive chunks? *(incremental)*	**Sec. 5202**	Parts 3.3, 4.3.5		X	X	X	Acquisition Strategy	PM	MDA***
Does the acquisition strategy allocate risk between government and contractor? *(contract risk management)*	**Sec. 5201**;	Parts 3.3.2, 3.3.4; FAR; OMB Cir A-131		X	X	X	Acquisition Strategy	PM	MDA***
Does it effectively use competition? *(competition)*	CICA; 41 USC 418; 10 USC 2318	Part 3.3.4.1; FAR 6.3		X	X	X	Acquisition Strategy	PM	MDA***
Are contract payments tied to accomplishments? *(earned value)*	*Sec. 3506 (b)(2), (5)*	Part 3.3.4		X	X	X	Acquisition Strategy, Integrated Baseline Review	PM	MDA***

CIO and DoD Program Requirements									
Program Requirement ***(Short Title)***	**Source of Requirement*** **Statutory** **Regulatory**		**Milestone Applicability** **0**	**I**	**II**	**III**	**Potential Information Source**	**Prepared By**	**Approval ***/ Considered By**
Does it take maximum advantage of commercial technology? *(COTS components)*	**Sec. 5201**; 10 USC 2377; FASA Sec 8104	Part 3.3.1		X	X	X	Acquisition Strategy	PM	MDA***
									g:myers.may.prgreq.doc(as of: 1 May 97)

* The program requirements listed in this column are simplified statements of investment guidance being used by the Office of management and Budget (OMB). These requirements are even more simplified statements of the statutory and regulatory sources listed in the column labeled "Source of Requirement."

** All statutory references in **bold** type are to Division E of the Clinger-Cohen Act of 1996, (formerly titled the Information Technology Management Reform Act (ITMRA) of 1996). All statutory references in *italics* are to the Paperwork Reduction Act (PRA) of 1995. All regulatory "Part___" references are to DoD 5000.2-R. Division E of the Clinger-Cohen Act of 1996 Sections 5123, 5125, and 5126 apply to National Security Systems (NSS). The extent to which Sections 5112, 5113, and 5122 do not apply to individual NSS will be determined on a case by case basis.

*** Information source explicitly approved by the official indicated.

Appendix L

Other Reference Material:

1. "Capital Programming Guide" Version 1.0 (Supplement to OMB Circular A-11, Part 3: Planning, Budgeting, and Acquisition of Capital Assets. July 1997
2. "Assessing Risks and Returns: A Guide for Evaluating Federal Agencies' IT Investment Decision-making" (GAO/AIMD-10.1.3) February 1997
3. "Department of Defense Guide for Managing Information Technology (IT) as an Investment and Measuring Performance" Version 1.0 10 February 1997
4. "IT Capital Planning and Investment Guide" Office of the Chief Information Officer U.S. General Services Administration October 1997
5. "Implementation of Mandatory Procedures for Major and Non-Major Defense Acquisition Programs and Major and Non-major Information Technology Acquisition Programs (SECNAVINST 5000.2B) 6 December 1996
6. Mandatory Procedures for Major Defense Acquisition Programs (MDAPs) and Major Automated information System (MAIS) Acquisition Programs (DOD Regulation 5000.2R) 15 March 1996
7. "Evaluating Information Technology Investments: A Practical Guide (Office of Information and Regulatory Affairs, Information Policy and Technology Branch, OMB) November 1995
8. "Business Process Reengineering Assessment Guide" Version 3 (GAO/AIMD-10.1.15) May 1997

Appendix M

Glossary of Terms

A

Acquisition Category (ACAT): The program's size (cost), complexity, and risk generally determine the category of an acquisition program. Acquisition programs are divided into different categories to facilitate decentralized decision-making, execution, and compliance with statutory requirements.

Acquisition Management Process: The DON acquisition process for IT investments is defined in DoD Regulation 5000.2-R, "Mandatory Procedures for Major Defense Acquisition Programs (MDAPs) and Major Automated Information System (MAIS) Acquisition Programs", and by SECNAVINST 5000.2B, "Implementation of Mandatory Procedures for Major and Non-major MDAPs and Major and Non-major IT Acquisition Programs".

B

Business Process Reengineering (BPR): DoD business process reengineering comprises a set of activities designed to improve the performance of DoD functional activities by reorganizing the performance of value-added work to minimize non value-added work.

C

Capital Planning (CP): The process of selecting, managing and evaluating IT investments over their life-cycles.

Capital Planning Phases:

Selection: Synonymous with the Planning, Programming and Budgeting System (PPBS) Process, the Selection phase is the phase of the Capital Planning Process where IT investment funding decisions are made.

Management: Synonymous with the Acquisition Management Process, the Management phase is the phase of the Capital Planning Process where decisions regarding continuation, modification or termination of IT acquisitions are made during milestone reviews.

Evaluation: The Evaluation phase is characterized by reviews of fully operational systems by an independent review authority within 3 to 12 months following full deployment and by reviews of operational systems whenever problems arise at any point during the systems' life-cycles.

Cost: For appropriated activities, Budget Authority (BA); for Navy Working Capital Fund (NWCF) activities, cost and/or Capital Purchase Program (CPP) obligational authority. Cost types are:

Development and Modernization (DEV/MOD): Any change to or modification to an existing AIS which results in improved capability or performance of the baseline AIS (improved capability or performance achieved, as a by-product of current technology, for "Current Services" items is not included). Development/Modernization includes:

a. Program costs for new IT resources that are planned or under development. Program costs consist of development costs, procurement costs, and any construction costs which are in direct support of the AIS, project, initiative, or program, irrespective of which Department of Defense (DoD) appropriation accounts or funds are used to finance the costs. This term encompasses costs from project initiation through deployment to all operational sites (less any operation and support costs at sites that have been activated). Included in program costs are costs for IT resource concept development, design, development, and deployment financed by any appropriation or the Working Capital Fund.

b. Any change or modification to an existing IT resource which

is intended to result in improved capability or performance of the resource. These changes include:

(1) All modifications to existing operational software (other than corrective software maintenance);

(2) Acquiring technologically newer IT equipment to replace obsolete but working IT equipment (i.e., unless the IT equipment to be replaced is broken, all replacement costs are considered to be development and modernization cost); and

(3) Expansion of existing capabilities to new users.

c. Changes mandated by Congress or the Office of the Secretary of Defense (OSD).

d. Includes personnel from the project management office and other direct support personnel involved with development and modernization.

Operations (a.k.a. Current Services): The cost of continuing operations at the current capability and performance level. Current services include:

a. Those personnel whose duties relate to the general management and operation of information technology (IT). IT general management personnel are those engaged in IT-related policy, oversight, and/or other IT-related functions such as review of IT resources (i.e., automated information systems (AISs), initiatives, projects and/or programs), plans, IT life-cycle management, and IT strategic planning.

b. Maintenance of existing IT resources, as currently configured, without further changes (except for corrective software maintenance; or the replacement of broken IT equipment needed to continue operations at the current services level).

c. Corrective software maintenance (includes all efforts to diagnose and correct actual software errors, e.g., processing or performance errors).

d. Replacement for the sake of updating existing (i.e., working)

hardware, whether that hardware is considered obsolete or outdated, regardless of the age of the equipment or its commercial availability, is not considered a current services (i.e., operations) cost but is to be reported as a development and modernization cost.

e. Maintenance of existing voice and data communications capabilities as currently configured, without further changes (except for the replacement of broken voice and data communications equipment).

f. All other related costs not identified as development and modernization.

I

Information Technology (IT):

(A) The term `information technology', with respect to an executive agency means any equipment or interconnected system or subsystem of equipment, that is used in the automatic acquisition, storage, manipulation, management, movement, control, display, switching, interchange, transmission, or reception of data or information by the executive agency. For purposes of the preceding sentence, equipment is used by an executive agency if the equipment is used by the executive agency directly or is used by a contractor under a contract with the executive agency which (i) requires the use of such equipment, or (ii) requires the use, to a significant extent, of such equipment in the performance of a service or the furnishing of a product.

(B) The term `information technology' includes computers, ancillary equipment, software, firmware and similar procedures, services (including support services), and related resources.

(C) Notwithstanding subparagraph (A) and (B), the term `information technology' does not include any equipment that is acquired by a Federal contractor incidental to a Federal contract.

Information System (IS): A discrete set of information technology resources organized for the collection, processing, maintenance, use, sharing, dissemination, or disposition of information to support a functional activity or process.

Input: Information, materials, and resources needed to create products or services; the starting point of a production process.

IT Acquisition Program: Any IT acquisition; includes both development/modernization and operations (a.k.a. current services) cost.

IT Investment: Any development/modernization (DEV/MOD) funding for any IT acquisition.

IT Investment Portfolio: The set of funded IT investments at any particular point in time, e.g., as reflected in the POM and budget submissions.

IT Investment Strategy: Document which contains Navy (OPNAV) and Marine Corps jointly-developed strategies for achieving the objectives reflected in the DON IM/IT Strategic Plan.

N

National Security System (NSS): As defined in Section 5142 of the Clinger-Cohen Act of 1996, the term "NSS" means any telecommunications or information system.... the function, operation or use of which:

1. Involves intelligence activities;
2. Involves cryptologic activities related to national security;
3. Involves command and control of military forces;
4. Involves equipment that is an integral part of a weapons system; or
5. Is critical to the direct fulfillment of military or intelligence missions (does not include routine administrative and business (e.g., payroll, finance, logistics, personnel) applications).

O

Outcome: The effect, result, or consequence that occurs from the output(s) of a process. An output goal is the intended result of a process.

Output: The product, information, or service provided to a customer; the end point or result of a process.

P

Performance Measure (PfM): The assessment of effectiveness and efficiency of IT in support of the achievement of an organization's missions, goals, and quantitative objectives through the application of outcome-based, measurable, and quantifiable criteria, compared against an established baseline, to activities, operations, and processes.

Post-deployment Review (PDR): A review of an IT acquisition during the evaluation phase comparing expected versus actual performance results; determine actual return-on-investment; and, provide feedback on "lessons learned" to the Program Manager and Milestone Decision Authority.

Planning, Programming and Budgeting System (PPBS): The DoD resource allocation system used to identify mission needs, match the needs with resource requirements and translate the resource requirements into budget requests.

Process: A series of value-added tasks that are linked together to turn input into a product or service output.

R

Raines Rules: Mandatory IT investment criteria. Please see Appendix K.

T

TAB G: IT resources extract of the Program Objectives Memorandum (POM) submission.